

SOVEREIGN WEALTH FUND INVESTMENT PATTERNS AND PERFORMANCE

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Abstract

We examine the investment patterns and performance of 32 sovereign wealth funds between January 1986 and September 2008. Most of the 1,216 SWF investments we document occur after June 2005 and most equity investments are privately-negotiated stock purchases in underperforming firms. SWFs have lost over \$66 billion on their listed stock investments alone through March 2009. Announcements of SWF listed stock purchases yield significantly positive abnormal returns averaging 0.9%, but two-year abnormal returns average -15.49%, suggesting SWFs do not create value through monitoring but instead exacerbate agency problems between managers and shareholders. Cross-sectional regressions and robustness tests support this conclusion.

JEL Classification: G32, G15, G38

Keywords: Sovereign wealth funds, International financial markets, Government policy and regulation

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Sovereign Wealth Fund Investment Patterns and Performance

Perhaps it should be called the “return of state capitalism.” However phrased, government-owned sovereign wealth funds (SWFs) have recently emerged as major international investors and the focus of global media and political attention. According to recent estimates, the 32 SWFs examined here control approximately US\$1.8 trillion in assets and have demonstrated an ability to both calm and roil international financial markets. Sovereign wealth funds are not new. While the initial wave of these funds emerged in the 1950s, the last five years have seen a marked increase in both the number of SWFs and their investment activity. Nineteen of the 32 funds in our sample have been established since 2000 and 14 were created after 2004. Of the 1,216 individual SWF investments worth \$357.1 billion we identify, over half (698) have occurred since 2005.

While SWFs were formed with a wide range of objectives and investment strategies, until 2005 these funds as a group tended to invest very conservatively, tended to invest close to home, and tended to invest in emerging economies. Then, beginning in 2005 SWF investment patterns shifted both in terms of overall volume of equity investment and in terms of target geography, with far more emphasis on OECD transactions. The resulting public dialog concerning SWFs gained steam after 2005 as these mostly Asian and Middle Eastern funds executed a number of high-profile deals involving iconic Western companies.¹ SWFs surged to financial prominence during late 2007 and early 2008 when several Asian and Persian Gulf-based SWFs purchased some \$63 billion worth of newly issued stock in the largest American and European banks at the height of the subprime mortgage crisis. In total, sovereign wealth funds invested almost \$90 billion in the stock of U.S. and European financial institutions between July 2005 and October 2008. Thus, these funds have collectively invested more new capital into the world’s financial institutions recently than any other single entity except the entire United States government.² Unfortunately, the losses these funds have suffered on their listed equity investments—which exceed \$66 billion of the original purchase price, as of late March 2009—also suggest that the financial crisis has hit sovereign wealth funds very hard.

As this recent history shows, SWFs have become major players in the global economy and their size alone would attract the interest of academic researchers. There are, however, several characteristics of sovereign wealth fund investments and of the funds themselves that make SWFs especially interesting

¹ For example, in the spring 2007, the newly-created China Investment Corporation (CIC) purchased a \$3 billion, non-voting equity stake in Blackstone Group immediately prior to the group’s initial public offering.

² See Harvey (2008) and Holland (2009) for descriptions of the U.S. government’s bank rescue plans. Holland (Exhibit 3) calculates that between November 2007 and January 2009 the Federal government injected equity capital totaling \$291.3 billion into U.S. financial institutions, and provided direct and indirect financial support worth \$7.8 trillion—of which \$3.3 trillion had actually been spent as of February 1, 2009.

to financial economists. First, these are fully government-owned investment funds that make large, risky, cross-border investments in politically sensitive industries--such as banking, telecommunications, and energy--and in politically sensitive investment categories such as commercial real estate and listed-firm equity. As state-owned entities, SWFs are organized and managed much differently than are large private investment funds, and many commentators have charged that sovereign funds might pursue non-commercial objectives such as promoting home-country economic development or furthering the national strategic interest. It also seems likely that SWFs will invest differently than do other large, internationally active investment vehicles that have been extensively researched recently by financial economists, such as pension funds [(Del Guercio and Hawkins (1999), Woitdke (2002), English, Smythe, and McNeill (2004), Cronqvist and Fahlenbrach (2009), and Becht, Franks, Mayer, and Rossi (2009)], mutual funds [Khorana, Servaes, and Tufano (2005), Davis and Kim (2007)], and hedge funds [Brav, Jiang, Partnoy and Thomas (2008), Bessler and Holler (2008), Brown, Goetzmann, Liang, and Schwartz (2008), Griffin and Xu (2009), and Klein and Zur (2009)].

The second intriguing characteristic of SWFs is that they invest large fractions of their capital in the equity of publicly listed companies, and, in contrast to most other institutional investors, typically invest by purchasing stock directly from target companies in friendly transactions closed to other new and existing stockholders. SWF share purchases thus tend to be capital-raising events for target companies that create large blockholdings of shares. The research of Barclay and Holderness (1989), Bethel, Liebskind, and Opler (1998), and Barclay, Holderness, and Sheehan (2007) documents that targeted stock offerings, block share sales and private placements, differ from open-market seasoned equity offerings (SEOs) in that targeted share issues involve sales of a full or partial controlling interest in a firm, and the announcements of targeted offers tend to be viewed positively enough by investors to generate positive announcement-period mean abnormal returns. Similarly, Hertzfel, Lemmon, Linck, and Rees (2002) and Bortolotti, Smart, and Megginson (2008) show that announcements of primary seasoned equity offerings yield non-negative mean abnormal stock returns--in contrast with the significantly negative announcement period abnormal returns invariably documented for secondary SEOs--yet the long-run returns of primary SEOs tend to be as negative as those documented for secondary SEOs.

For an academic audience, the most interesting and important feature of sovereign fund investing must surely be that SWFs' listed-firm stock purchases typically are large enough to make the funds significant blockholders in target firms, with the potential to play an active role in corporate governance. Recent years have seen major advances in the literature examining the effectiveness of large-block shareholders (which tend to be institutional investors) in monitoring and disciplining the managers of investee companies. Ever since the seminal papers of Shleifer and Vishny (1986) and Stulz (1988), economists have suggested that large shareholders (blockholders) have the proper incentives to monitor

portfolio firm managers and the capability to intervene decisively to punish or replace poorly performing executives. Until recently, however, there was little empirical evidence that blockholders are particularly effective monitors. Even institutional investors such as CalPERS [English, Smythe, and McNeill (2004)] with an avowed goal of improving corporate governance in portfolio companies have achieved only marginal and often fleeting success.

Explanations for this “non-performance puzzle” have been put forth by Woitdke (2002), Parrino, Sias, and Starks (2003), Davis and Kim (2007), Becht, Franks, Mayer, and Rossi (2009), and Cronqvist and Fahlenbrach (2009). These authors generally make three important points. First, there are many different types of blockholders and institutional investors and the characteristics (especially government versus private ownership) of these shareholders significantly influence how effective they are as monitors. Second, there is evidence that several types of blockholders--especially private pension funds, hedge funds, corporate investors, and individuals--are associated with significant improvements in target firm performance. Third, blockholders that successfully improve target firm performance often do so through private interactions with target firm managers rather than by mounting public, often quixotic campaigns against entrenched management teams, though Brav, et al. (2008) show that hedge funds often achieve success through private negotiations with managers that are backed up by public campaigns.

SWFs appear to have important similarities with both hedge funds and pension funds. As wealth funds, SWFs are similar to pension funds principally in that both have very long-term investment horizons--and thus feel little need to invest only in highly liquid securities--and both have demonstrated a preference for diversifying across multiple investment categories including stocks, government and corporate bonds, private equity, and real estate. SWFs appear similar to hedge funds in that both are stand-alone, unregulated pools of capital, managed by investment professionals and mandated (or at least allowed) to purchase large ownership stakes in foreign companies. Hedge funds are the types of institutional investors that Chen, Harford, and Li (2007) predict will be ideal corporate monitors, and the empirical work of Klein and Zur (2009), Ferreira and Matsos (2008), Brav, Jiang, Partnoy and Thomas (2008), and Cronqvist and Fahlenbrach (2009) shows that hedge funds do create significant shareholder value in the firms they target for investment.

In contrast to both hedge funds and pension funds, however, SWFs seem to face numerous, severe restrictions on the monitoring and/or disciplinary role they can realistically play, at least regarding their cross-border investments in listed companies, largely because any posture other than being purely passive investors might generate political pressure or a regulatory backlash from recipient-country governments. Even when SWFs do take majority stakes--which Miracky, Dyer, Fisher, Goldner, Lagarde, and Piedrahita (2008) show occurs almost exclusively when SWFs invest in domestic companies--the funds rarely publicly challenge incumbent managers in the way that Stulz (1988, 2005) shows might

create value for outside shareholders. SWFs appear unlikely even to exercise the type of governance through threat of exit discussed by Parrino, Sias, and Starks (2003) and Admati and Pfleiderer (2009), or to withhold their votes as a sign of displeasure with current managers [Del Guercio, Seery, and Woitdke (2008)], for fear of upsetting target-firms governments and public opinion.³ Determining the exact role that SWFs play in corporate governance thus becomes an empirical question.

Using a sample of 1,216 investments made by 32 sovereign wealth funds in companies and commercial properties around the world between January 1986 and September 2008, we examine the investment patterns and performance of and monitoring roles played by SWFs. We specifically test whether their investments have been value-increasing or decreasing over both short- and long-term investment horizons. We find that these funds almost always purchase minority ownership stakes directly from target companies, roughly half of which are unlisted and are sometimes located in the fund's home country. We show that the vast majority of the investments in publicly traded companies are primary share offerings rather than open market share purchases, and the stakes purchased are large enough to make SWFs influential blockholders in the investee companies should they wish to participate in target firm governance. However, we find little evidence that SWFs ever choose act as monitors of investee firm managers, particularly for target companies headquartered in OECD countries, but instead appear to become almost completely passive, long-term investors.

SWFs disproportionately favor financial companies, targeting about one-third of all their investments by number and over 50% by value in this sector--but this concentration is driven mostly by the changed investment behavior that SWFs have demonstrated since 2005, as the funds were invited to invest in (increasingly troubled) western financial institutions. Unsurprisingly, these investments performed very poorly following the onset of the global credit crisis in early-2008, but the financial firms that SWFs invested in performed even worse than did the overall sector. The most common targets for SWF investment are Singaporean companies, but almost all of these are domestic investments by Temasek or the Government Investment Corporation. SWFs make more cross-border investments, by value, in U.S.-headquartered companies than in any other country.

We also examine the financial performance of investee firms prior to SWF investments, at the announcement of these investments, and for up to two years afterwards. For robustness, we calculate performance using raw returns, market-model abnormal returns, and the matched-firm adjusted returns technique described in Barber and Lyon (1997), and later employed by Hertz, et al (2002), Choi, Lee, and Megginson (2009), and others. SWFs tend to purchase stock in listed companies that have performed

³ While we do not perform a detailed analysis of SWF divestments, it is evident from our data that SWFs have, to date, very rarely divested. We recognize that might change in the future and preliminary analysis of SWF transactions during the first two quarters of 2009 shows that SWFs have begun selling significant stakes for the first time. We are examining these divestments, as well as SWF investments since September 2008, in ongoing research.

poorly during the year prior to the investment, but stocks of companies receiving SWF equity investments increase significantly, by about 0.9%, on the announcement of these investments. This suggests that investors welcome SWFs as shareholders. On the other hand, we also find that abnormal buy-and-hold returns on shares of firms targeted by SWFs average -10.23% over one year and -15.49% over two years after the investment.⁴ These event study findings are strikingly similar to those presented in Hertznel, et al. (2002) for U.S. companies; these authors also find that privately placed stock sales yield significantly positive announcement period returns followed by significantly negative long-term returns. Cross-sectional analyses of the short and long-run abnormal returns of our sample firms stocks indicate that the degree of underperformance is related both to fund characteristics, in particular to scores of fund governance and transparency, and to the size of the stake acquired. The negative relation between the size of the stake acquired and subsequent performance seems to indicate that SWFs create no value through monitoring, thus freeing managers from effective oversight. Overall, we find that SWFs are very poor monitors: if anything, they lead to higher agency costs and to a loss of value for other, minority shareholders. SWFs appear to be examples of a category of large institutional shareholders which Chen, Harford and Li (2007) predict will not engage in monitoring.

This manuscript is structured as follows. Section 1 describes the evolution of sovereign wealth funds from small stabilization funds to their emergence as major player in global financial markets, while Section 2 surveys the academic and professional literature that motivates our study. Section 3 describes the Monitor-FEEM SWF Transaction Database we created for this study, while Section 4 presents an in-depth analysis of the investment patterns exhibited by SWFs, individually and collectively. Section 5 presents our empirical results, including event-study analyses of market reactions prior to, at the announcement of, and subsequent to listed-firm investments by SWFs, and the results of regression analyses of the announcement-period and long-run returns. Section 6 concludes.

1. The Evolution of Sovereign Wealth Funds—From Stabilization to Wealth Preservation

Though several government-owned investment funds have operated for decades, the descriptive term “sovereign wealth fund” was coined only recently [Rozanov (2005)]. Previously, these funds were

⁴ A careful reader of the press might notice that most reports discussing SWF investments appear upbeat, often citing successful investments and positive returns. We suspect the difference between our (negative) systematic estimates and what is often reported is largely due to a self-reporting bias, similar to what has been documented by Phalippou and Gottschalg (2009) for private equity funds and discussed by Griffin and Xu (2009) in relation to hedge funds. With the exception of Norway’s SWF, which is operated very transparently, most of the funds that disclose any investment returns do so sporadically and selectively—and the results disclosed generally appear impressive. They usually become much less so when compared to benchmark index returns or to the fund’s own returns over different holding periods. As an example, few funds (other than Norway) have as yet disclosed any details about their investment performance during 2008.

usually classified as stabilization funds. While SWFs are a heterogeneous group, most evolved from funds set up by governments whose revenue streams were dependent on the value of one underlying commodity and thus wished to diversify investments with the goal of stabilizing revenues. Accordingly, most SWFs have been established in countries that are rich in natural resources, with oil-related SWFs being the most common ones and most important--including the Arab Gulf countries, the ex-Soviet republics, Brunei and Norway. Other sources of funding include earnings from exporting diamonds, copper and other raw materials in a few African and South-American countries. The second important group of SWFs includes those that have been financed out of accumulated foreign currency reserves resulting from persistent and large net exports, especially in the cases of Singapore, Korea, China, and other East-Asian exporters. Nonetheless, there is no real consensus on exactly what constitutes a sovereign wealth fund. Because definitions vary and because few organizational details have been disclosed by these funds, estimates of the total value of assets under management can vary widely. This also, inevitably, leads to very heterogeneous funds being grouped into the SWF category, even though there are significant differences between funds with respect to organizational structure (separately-incorporated holding companies versus pure state ministries), investment objectives (preservation of wealth versus wealth diversification and growth), compensation policies and status of fund managers (incentivized professionals versus fixed-wage bureaucrat), and degree of financial transparency (Norway's Pension Fund-Global versus almost everyone else).

In recent years, a combination of trends has led to a very rapid accumulation of reserves in export surplus countries, and thus in their sovereign funds. The most relevant trends include rising oil prices, but also rising prices for other raw materials (often attributed to China's rapid economic growth) and the negative balance of payments of Western countries, especially the United States, which has inflated the currency reserves of Asian exporters (particularly dollar-denominated reserves). Rising reserves have been coupled with other trends. On one side, aging populations have led to a desire for higher returns, in anticipation of increased pension liabilities and, in response, governments have searched for new investment options offering potentially higher returns. On the other hand, a series of factors has made international investments less problematic. In particular, Truman (2007) cites "increased global integration, substantial elimination of restrictions on international capital flows, technological innovation, [...] recognition that diversification contributes to increased investment returns, and loosening of 'home bias' in investment decisions." Fast accumulation of reserves, coupled with a swelling appetite for returns, has led to a dramatic increase in the rate of SWF investments.⁵

⁵ Our sample shows clearly that SWF investments surged after 2001, and grew especially rapidly from 2005 until the summer of 2008, when oil prices peaked. In fact, almost 60 percent of the 1,216 SWF investments we analyze occurred after December 2004. After the second quarter of 2008, however, investments by SWFs fell sharply, and investments in western listed companies essentially ceased [Miracky, Dryer, Fisher, Barbary, and Chen (2008)].

By reliable estimates, SWFs managed over US\$3 trillion of assets in early 2008, with an authoritative estimate by International Financial Services London [Willman (2008)] giving a figure of \$3.3 trillion.⁶ Today's asset value is significantly lower as a result of the sharp decline in global asset values that began with Bears Stearns near-collapse in March 2008 and accelerated following Lehman Brothers' bankruptcy six months later. Table 1 presents our list of sovereign wealth funds, along with estimates of their size in early 2009, their inception dates, the principal source of their funding, and their total score of current practices, from Truman (2008).⁷ This compilation shows total assets for all SWFs of \$1.831 trillion, with oil and gas-financed SWFs managing total assets of \$1.412 trillion and non-oil SWFs managing assets worth \$419 billion.

***** Insert Table 1 about here*****

The sheer size of SWFs, while making them important players in markets, has to be evaluated with respect to other investment vehicles. The aggregate size of SWFs, estimated by Lyons (2007) as \$2.1 trillion in early 2007, was much smaller than the aggregate assets of either pension funds (circa \$21 trillion) or mutual funds (circa \$17 trillion) at the same time, but larger than the aggregate size of all hedge funds (about \$1.5 trillion) and private equity funds. There is also controversy surrounding the likely future growth rate for SWF asset accumulation. Recognizing that the actual growth rates are going to be extremely sensitive to macroeconomic factors, in particular the price of oil, Stephen Jen estimated in 2007 that SWFs would grow by around \$40 billion per year over the subsequent decade, concluding that the pool of assets managed by SWFs could reach US\$12 trillion by 2015 [Jen (2007)]. Although Jen scaled back his forecast of SWFs' growth rate in November 2008, to reflect the impact of sharply lower asset valuations and declining oil prices, he still predicts that SWF assets will reach \$9.7 trillion in 2015 [Jen and Andreopoulos (2008)]. Kern (2008) also predicts that SWF assets under management will reach \$10 trillion by 2015.⁸

⁶ The Sovereign Wealth Fund Institute, which uses a more inclusive definition of SWFs, gives their total size as \$3.927 trillion as of October 2008.

⁷ Truman (2007 and 2008) scores SWFs on corporate governance, and the score is based on four main questions: (1) is the role of the government in setting investment strategy clearly established? (2) Is the role of managers in executing the investment strategy clearly established? (3) Does the SWF have in place and publicly available guidelines for corporate responsibility? And (4) does the SWF have ethical guidelines that it follows? Truman (2007 and 2008) also scores SWFs on their level of accountability and transparency, structure, and behavior. The 'total' score is a simple average of the scores on governance, accountability and transparency, structure and behavior. Each of the disaggregated scores and the total score range from 0 to a 100, where 100 indicates the highest level

⁸ In addition to estimates of SWF asset growth being curtailed, it has also been reported that some of the earlier estimates of current SWF size were overstated. For example, a *Wall Street Journal* article from May 20, 2009 [Davis (2009)] reports that while earlier estimates of ADIA's size put their assets under management at \$875 billion, current ones put the figure at \$282 billion. While part of the decline is due to lower oil prices and investment losses, most of the discrepancy is simply the result of the very limited public fact base on ADIA's portfolio.

1.1. A Brief History of Sovereign Wealth Funds

The first SWF to be established was the Kuwait Investment Board, which was set up in London in 1953 by Sheik Abdullah Al-Salem Al-Sabah to invest surplus oil export revenues. However, since Kuwait was still a British colony in 1953 and would remain so for eight more years, the first true SWF was established in 1956 by Kiribati, a tiny Pacific island nation, to manage revenues from phosphate deposits (guano). Then, as now, this was called the Revenue Equalization Reserve Fund, and the potential payoff from establishing such a fund can be shown by noting that the assets in Kiribati's fund today (\$400 million) are almost six times larger than this country's GDP in 2008 (estimated at \$71 million in the CIA World Factbook).

The next milestone in sovereign investment came in 1974, when Singapore established Temasek Holdings to manage the Ministry of Finance's equity holdings. Two years later, the Abu Dhabi Investment Authority was set up to manage the emirate's rapidly accumulating surplus oil export revenues. Singapore was the first country to establish a SWF during the 1980s, when the Government of Singapore Investment Corporation was founded in 1981, initially as a private company, to make long-term, higher return investments. The Brunei Investment Agency was set up two years later to invest that country's surplus oil export earnings and to manage external state assets. The next important SWF milestone occurred in 1990, when the Norwegian government set up a fund, originally called simply the Petroleum Fund, to manage the country's swelling North Sea oil export earnings. In 2006, the fund was renamed the Pension Fund–Global as part of a broader reform of the Norwegian pension system, which sought to use the country's oil revenues to provide for future generations of Norwegians. Malaysia established Khazanah Nasional Berhad in 1993 to manage state commercial assets and to make strategic investments, and then relatively little else was heard from sovereign investors for the remainder of the tech-driven decade of the 1990s.

The latest wave of new SWF formation and investment activity began at the start of this decade. The emirate of Abu Dhabi set up Mubadala Development Company in 2002, and established the private equity fund Istithmar (which means “investment” in Arabic) World one year later. The Qatari and Russian governments also established their own SWFs in 2003, with the Stabilization Fund for the Russian Federation being set up to help smooth out the massive swings in Russian state income and to invest a portion of the “windfall” resulting from sharply rising oil prices. In 2008, this fund was split into the National Welfare Fund (a true SWF) and the Oil Stabilization Fund.

The Korea Investment Agency was also established in 2005, through transfer of \$17 billion in official exchange reserves, and tasked with pursuing international investments yielding commercial returns. That year also witnessed the first major cross-border SWF investments in financial institutions and intermediaries, when Mubadala purchased a 7.5% stake in U.S. private equity firm Carlyle Group for

\$1.35 billion in July, and Temasek purchased a 5.1% stake in China Construction Bank for \$1.40 billion prior to bank's IPO two months later.

Political troubles began in earnest for sovereign wealth funds in January 2006, when Temasek Holdings paid \$1.8 billion for a controlling stake in the Thai telecommunications firm, Shin Corporation, from the family of Thaksin Shinawatra, Thailand's elected prime minister. That sale proved extremely controversial, and Shinawatra was overthrown in an Army coup only eight months later. 2006 also witnessed the first of what was to prove an astonishing 18 purchases of equity stakes in (what would soon prove to be) troubled western commercial and investment banks, when Temasek purchased 11.55% of Standard Chartered plc in March for \$4.0 billion. Seven months later, Temasek purchased another 2.70% stake in Standard Chartered for \$1.0 billion.

The year 2007 was a watershed for SWFs, with fund-raising and investment both surpassing \$100 billion for the first time. This year also marked a major shift towards investments into financial firms, especially U.S. and European banks. Panel A of Figure 1 shows the large spike in SWF investment in 2007 (and 2008) versus previous years, as well as the rising share of financial deals in aggregate investment value. Panel B of Figure 1 documents the steady decline in the fraction of SWF investments in domestic rather than cross-border deals, with the domestic share falling to a mere 15% in 2007 versus 45% as recently as 2000. Ironically, the first major SWF financial investment of 2007—China Investment Corporation's \$3.0 billion purchase of a 9.9% stake in U.S. private equity firm Blackstone Group as part of Blackstone's IPO in May—was very well received at the time, as was Dubai International Financial Center's \$1.8 billion investment in Deutsche Bank that same month, which yielded a 2.2% stake.

****** Insert Figure 1 about here ******

During late 2007 and the first half of 2008, the bulk of SWF investments by value involved distressed sales of equity by western banks anxious to raise capital to offset the losses resulting from their investments in subprime U.S. mortgage-backed securities. Table 2, which lists the 24 largest SWF investments in publicly-traded companies, clearly shows that no fewer than 12 of the 18 largest SWF investments in listed-firm equities occurred between November 2007 and February 2008—and that eleven of the deals in this four-month period, worth \$61.3 billion, involved direct purchases of stakes in distressed western banks. The last three columns in Table 2 detail the value of the listed firm investments in late-March 2009, and reveals that by then the eleven bank investments were collectively worth a mere \$18.7 billion, implying a loss of \$42.6 billion (or 69.6% of initial value) on these deals in only one year. Since the total loss incurred by SWFs on all the listed-firm investments we track totals \$66.9 billion, it is clear that the massive hole in sovereign wealth fund portfolios today was largely due to a mere handful of disastrous stock picks. A timeline of major milestones in SWF history is presented in the Appendix.

****** Insert Table 2 about here ******

2. Literature Review of Research on Sovereign Wealth Funds

Surprisingly little academic research has thus far examined sovereign wealth funds. This contrasts sharply with the vast number of research studies that have examined government privatization programs—arguably the mirror image of state directed investment through sovereign wealth funds. Megginson and Netter (2001) cite more than 100 privatization empirical studies, and several dozen more have been published since 2001. Given the importance of SWFs to the global financial system today, and the projected growth of these funds in the future, it seems very likely that academic research will soon catch up to financial reality.

In contrast to the slow academic research response, corporate and professional research examining SWFs emerged fairly quickly. Recent, descriptive papers by the Monitor Group [Miracky, Dyer, Fisher, Goldner, Lagarde, and Piedrahita (2008), Miracky, Dryer, Fisher, Barbary, and Chen (2008), and Monitor Group-Fondazione Eni Enrico Mattei (2009)], the European Central Bank [Beck and Fidora (2008)] and Subacchi (2008) assess the rise of SWFs, and reach generally positive, if nuanced conclusions. Butt, Shivdasani, Stendevad and Wyman (2008) offer an interesting description of the SWF phenomenon, summarizing the salient features of SWFs and echoing the most common concerns, while Blundell-Wignall, Hy and Yermo (2008) offer a brief description of SWFs, focusing on the differences between the latter and public pension funds. Finally, Balding (2008) offers a portfolio analysis of several of the largest SWFs, and insightfully discusses how difficult accurately categorizing SWFs can be.

In addition to our work, several academic studies have now examined SWFs. Kotter and Lel (2008) analyze a sample of 163 SWF investment announcements between 1982 and 2008 and find that the market reacts positively to announcements of investments by SWFs. They also find that transparency of the fund is related to the market reaction at the time of the announcement, but they document that SWF investments do not significantly affect target firm growth, profitability or governance in the three years following the investment. Dewenter, Han and Malatesta (2009) analyze a sample of 196 acquisitions and 47 divestitures by SWFs involving publicly traded firms. They find positive market reactions to acquisitions and negative reactions to divestitures. In a long-term analysis, they find mostly insignificant, slightly negative abnormal returns. In cross-sectional analysis, they find that an overall index of fund governance is positively related to the announcement reaction and that the relationship between abnormal returns and percent acquired is non-linear: small acquisitions lead to positive reactions while large acquisitions lead to smaller, even negative reactions.

Knill, Lee and Mauck (2009) similarly analyze a sample of 232 SWF investments in publicly traded companies. They find positive market reactions to announcements. For the long-term (one-year)

event studies, they offer different results by subsets. They find negative one-year abnormal returns, but only for SWFs that are from oil-producing countries, for opaque SWFs, and for investments in non-financial targets. They also find stronger negative returns following heavy media coverage. Yet, the authors are mostly interested in studying market volatility. In order to investigate whether SWFs add instability, as often claimed by the press, or produce stability by allowing a larger investor-base, the authors then estimate an autoregressive volatility model. Their results document lower volatility for targets after acquisitions. They also compute Sharpe ratios and find that the decline in returns is not compensated by sufficiently lower volatility. Finally, they repeat their analysis for the target home market and claim that target markets display lower returns and volatility after SWF investments. An analysis of profitability ratios leads to similar results as the above for individual firms—that is, both returns and volatility are lower, but the decline in volatility is not enough to compensate.

Another study focusing on SWF transactions is Chhaochharia and Laeven (2009). These authors investigate investment patterns by SWFs and find that the funds largely invest to diversify away from industries at home, but they do so by investing mainly in countries sharing the same culture. In an event study on a sample of 89 investment transactions, they find positive market reactions at the time of the announcement, but they find poor long-run performance of investment targets. Fernandes (2009) takes a different approach, by focusing on SWF holdings, rather than transactions. Using data on over 21,000 SWF holdings between 2002 and 2007, he finds that firms with higher SWF ownership have higher valuations and better operating performance. He also documents that SWFs have a stabilizing effect on financial markets.

Bernstein, Lerner, and Schoar (2009) examine the direct private equity investment strategies of sovereign wealth funds and their relationship to the funds' organizational structures. They find that SWFs seem to engage in a form of trend chasing, since they are more likely to invest at home when domestic equity prices are higher, and invest abroad when foreign prices are higher. SWFs have a much greater likelihood of investing at home when politicians are involved in fund management than do those where external managers are involved, though SWFs with external managers tend to invest in lower P/E industries, which see an increase in the P/E ratios in the year after the investment. Finally, Pellizzola (2009) presents a review of the professional and academic literature examining sovereign wealth funds.

On balance, the extant academic research portrays SWFs as internationally active investors that make sizable direct investments in listed companies which are welcomed—at least in the short run—by market participants. Little evidence has yet been presented regarding the longer term impact SWFs have on portfolio firms or about how the investment patterns and performance of SWFs compares to other institutional investors. We attempt to fill in these empirical blanks.

3. Data and Sample Construction

As noted above, the term “sovereign wealth fund” was coined only four years ago, and no consensus has yet been reached on its exact meaning, but most definitions suggest these are state-owned investment funds (not operating companies) that make long-term domestic and international investments in search of commercial returns. Some definitions are much broader than this, as in Truman (2008), who defines a sovereign wealth fund as “a separate pool of government-owned or government-controlled financial assets that includes some international assets.”⁹ On the other hand, Balding (2008) shows that a more expansive definition encompassing government-run pension funds, development banks, and other investment vehicles would yield a truly impressive total value of “sovereign wealth.”¹⁰

In this study, we employ the selection criteria presented in Monitor-FEEM (2009), which defines a SWF as (1) an investment fund rather than an operating company, (2) that is wholly owned by a sovereign government, but organized separately from the central bank or finance ministry to protect it from excessive political influence, (3) that makes international and domestic investments in a variety of risky assets, (4) that is charged with seeking a commercial return, and (5) which is a wealth fund rather than a pension fund—meaning that the fund is not financed with contributions from pensioners and does not have a stream of liabilities committed to individual citizens. While this sounds clear-cut, ambiguities remain. Several funds headquartered in the United Arab Emirates are defined as SWFs, even though these are organized at the Emirati rather than federal level, on the grounds that the emirates are the true decision-making administrative units. The sub-national UAE funds included are the Abu Dhabi Investment Authority (the world’s largest SWF), the Investment Corporation of Dubai (and its subsidiary Istithmar World), Mubadala Development Company, DIFC Investments (Company) LLC, the International Petroleum Investment Corporation (IPIC), and Ras Al Khaimah Investment Authority. Finally, we include Norway’s Government Pension Fund-Global, as the Norwegian government itself considers this a SWF and because it is financed through oil revenues rather than through contributions by

⁹ Unlike most commentators, Truman (2008) includes government pension funds in the SWF category. Most others exclude government pension plans, with the notable exception of Norway’s Government Pension Plan-Global, which is defined as a SWF because its size, its unusual global asset allocation, and its focus on profitability make it more similar to SWFs than to other government pension plans, and because the fund is financed by oil revenues rather than by contributions from pensioners. In addition, most definitions exclude funds directly managed by central banks or finance ministries, as these often have very different priorities, such as currency stabilization, funding of specific development projects, or the development of specific economic sectors.

¹⁰ In ongoing research we have identified over 2,500 investments, worth over \$3 trillion, just in listed-firm stocks by state-owned investment companies, stabilization funds, commercial and development banks, pension funds, and state-owned enterprises. Add to that state purchases of government and corporate bonds, plus SWF holdings and foreign exchange reserves--estimated by Alberola and Serena (2009) to have reached \$7 trillion in 2Q2008--and the total value of state-owned financial assets may already exceed \$15 trillion.

pensioners. As will be discussed later, however, we do not observe any of the Norwegian fund's actual investments—since these are contracted out to independent asset manager—so Norway is not included in our empirical analysis. These criteria yield a sample of 32 sovereign wealth funds from 23 countries.

We draw a sample of 1,216 sovereign wealth fund investments, worth \$357.1 billion, from the Monitor-FEEM SWF Transaction Database. This database was organized by the Monitor Group and the Fondazione Eni-Enrico Mattei (FEEM), overseen by the authors, and covers domestic and international investments made by 32 funds between January 1986 and September 2008. This sample includes investments in listed equity, unlisted equity, commercial real estate, private equity funds and joint ventures in which one of the SWFs listed in Table 1 (or one of its subsidiaries) is an investor. These observations were created using multiple public sources. Information from five financial databases (Thomson One Banker, Bloomberg, the SDC Global New Issues database, the Zephyr M&A database, and Zawya.com) was integrated with data from fund websites and from various news sources (the Lexis-Nexis database and also the archive of *Financial Times*, *New York Times*, *Wall Street Journal*, *GulfNews*, the Associated Press and Reuters). In order to ensure accuracy, each data point was verified by at least one high-quality source; in most cases, multiple sources were established. Particular care was given to ascertaining the reliability of data originating from news sources, and news reports (such as those from the Associated Press and Reuters) were never used as sole sources of deal information. After assembling the sample of unique deals, we verified investment dates, deal value, SWF investors, and stakes purchased by comparing observations across all available sources and, when necessary, by reconciling differences by tracking data to its original source through additional news searches and by using the Factiva and Lexis-Nexis databases and other online news sites. The FEEM-Monitor SWF database is not comprehensive—there are, for example, no observations of government or corporate bond purchases, even though the bulk of most SWFs' investments are reportedly in debt securities. Nonetheless, the total of over \$350 billion in deal value amounts to nearly one-fifth (19%) of the best current estimates of assets under management for the 32 funds in our sample. Unfortunately, given the lack of disclosure of facts on these funds' portfolios, it is impossible to know what portion of their overall equity investment we are missing through our data collection. However, the database is the largest sample of SWF investment transactions available today, and we believe it is therefore a meaningful starting point.¹¹

Table 3 summarizes the Monitor-FEEM SWF Transaction Database and details the types of investments that SWFs make. These data contradict the popular notion that SWFs are principally international purchasers of stock in listed western companies. Although over 90 percent (1,098 of 1,216)

¹¹ Detailed information about the Monitor-FEEM SWF Transaction Database is provided in Monitor Group-Fondazione Eni Enrico Mattei (2009), available at www.monitor.com and www.feem.it. This database is updated continuously and the managing parties publish quarterly and annual reports on SWF investments.

of all observations involve equity investments, only about one-third of these are investments in listed company equities. The remaining two-thirds involve purchases of stock in unlisted operating companies, private equity funds, initial public offerings, and joint ventures. The average (median) size of listed stock investments is \$383 million (\$50 million), and this purchases 19.4% (9.0%) of the target company's shares. The average sizes of SWF investments in unlisted operating companies and in initial public offerings--\$349 million (\$33 million) and \$396 million (\$170 million, respectively)--are remarkably similar both to each other and to the stakes acquired in listed firms though, unsurprisingly, funds purchase much larger fractions of the stock of unlisted operating companies (53.3% mean, 49.0% median) than they purchase in listed companies or IPOs (3.9% mean, 2.7% median).

***** Insert Table 3 about here*****

Investments in private equity funds are on average the largest investments made by sovereign funds—with a mean value of \$1,905 million and a median of \$1,200 million—and in exchange the funds acquire large average (59.2%) and median (46.0%) fractions of the target private equity funds. Joint venture investments appear relatively small (\$120 million mean and median investment, purchasing a 45.5% mean and median stake). Real estate investments by sovereign funds are, on average, second only to IPO purchases in size (\$546 million mean, \$245 million median) and involve purchases of the biggest stakes (73.1% mean, 100% median). While the typical SWF investment involves purchases of minority stakes, fully one-third (261 of 775 observations with stake purchase values) of the deals involve acquisitions of majority stakes and 184 observations are purchases of 100% of the target firm's equity.

4. Sovereign Wealth Fund Investment Patterns

4.1. Observations by Fund

Table 4 details the SWFs making the largest number and value of investments in our database. This table also describes the number and value of domestic investments—purchases of stakes in firms from the SWF's home country. Singapore's two SWFs account for over 57% of the number and 41% of the value of all SWF deals; Temasek Holdings and its subsidiaries alone account for 42% of the number and 18% of the value of all investments. Other significant SWF investors include Istithmar (80 deals worth \$26.96 billion), Mubadala Development Company (62 deals worth \$30.3 billion), Abu Dhabi Investment Authority (42 deals worth \$19.1 billion), Qatar Investment Authority (29 deals worth \$20.9 billion), Kuwait Investment Authority (18 deals worth \$19.9 billion), and China Investment Company (12 deals worth \$37.4 billion). Perhaps the most surprising finding detailed in Table 4 is the relative *infrequency* of domestic investments; only 21.6% of the number and 16.3% of the value of all deals involve SWF investments in their home countries.

***** Insert Table 4 about here*****

These patterns generally support common perceptions that the Singaporean SWFs are the most active internationally-oriented funds and that the Chinese fund has primarily focused on the home market since its founding in 2007. However, the results are surprising for two important funds, Norway's Government Pension Fund-Global and the Abu Dhabi Investment Authority (ADIA). Although Norway's fund is the world's second largest SWF, and is a recognized leader in global investing, there are literally no observations for it in our sample. This is because the fund sub-contracts out all of its investments to asset managers, and so the fund is never listed as the buyer of stock or real estate in any database. There are two principal reasons for the modest number of observations for ADIA (only 42 investments, though these do total almost \$19.1 billion). First, ADIA also seems to employ asset managers for many of its investments, especially smaller portfolio investments in listed companies. Second, it has a more conservative investment philosophy than do most other SWFs, and thus invests more of its capital in dollar-denominated government and corporate bonds, which are not visible to our search techniques.

4.2. *Industrial Distribution of Sovereign Wealth Fund Investments*

Table 5 details the industrial distribution of SWF investments. As is generally presumed to be the case, SWFs favor investing in companies in the financial industry over all others. The 376 financial firm investments account for 30.9% of all deals, by number, and over half (54.6%) of the value of all acquisitions. Other significant target industries attracting SWF investments are real estate (11.9% of deals, 15.3% of value), information technology (7.5% of deals, 7.7% of value), industrials (9.1% of deals, 5.3% of value), and infrastructure (11.9% of deals, 15.3% of value). The reader should, however, note that this preference for financial investments is a fairly recent phenomenon. As shown in Figure 1 (Panel A), sovereign funds allocated less than one-fifth of their investment funds to financial firms as recently as 2006, and allocated even smaller fractions to financial companies in previous years.

***** Insert Table 5 and Figure 1 about here *****

4.3. *Target Countries for Sovereign Wealth Fund Investments*

Table 5 also presents the geographic distribution of SWF investments (by target country). As noted above, Singapore receives the largest number of SWF investments—almost all from the two Singaporean SWFs—but the total value of these investments (\$13.23 billion) yields only a sixth place ranking. The United States is easily the most popular target nation for SWFs, in terms of total value invested, with 10.9% of the number and 22.2% of the total value of SWF investments being channeled to U.S.-headquartered companies. China is the second most popular target country in terms of value, though almost all of the 79 deals worth \$31.0 billion are domestic investments by the China Investment

Corporation—including the \$20 billion, December 2007 purchase of an equity stake in China Development Bank, which is the largest single investment in our database.¹² Besides Singapore, the United States and China, other popular target countries include the United Kingdom (all foreign investments), the UAE (mostly domestic deals), Australia (mostly foreign) and Malaysia (mostly domestic). Apart from buying stakes in a few home-country firms, it seems clear that SWFs prefer to invest in the principal English common law countries: America, Britain, and Australia.

4.4. *Method of Acquiring Equity Stakes*

Finally, we examine how SWFs acquire the stakes they purchase in listed companies. We find that the vast majority of the investments that all SWFs make in publicly traded companies are privately-negotiated, primary share offerings rather than open market share purchases; only 23 deals, worth \$677 million, are explicitly described as open market purchases of stock in listed firms. To our knowledge, this method of acquiring equity stakes is unique to SWFs; pension funds, hedge funds, mutual funds and other types of internationally active institutional investors generally acquire stock through open-market purchases rather than by direct sales. Mikkelson and Partch (1985), Lee (1997), and Hertz, Lemmon, Linck, and Rees (2002), all document that the stock market response to announcements of privately negotiated share sales is significantly positive, whereas a mass of empirical evidence shows that the market reaction to public seasoned equity offerings is a significantly negative 2-3%. In their event-study analysis of the market response to international SEOs executed by both accelerated and traditional underwriting methods, Bortolotti, Megginson, and Smart (2008) show that primary share offerings are met with a much more positive (or at least a less negative) market response than are secondary offerings of existing shares. The authors interpret this result as showing that investors react more positively when the firm itself is raising new capital in a SEO than when an existing investor—who is presumably a knowledgeable insider—chooses to sell his or her shares. The fact that SWFs purchase primary shares in privately-negotiated offerings directly from target firms thus may explain the significantly positive announcement period abnormal returns we document (in some regressions) in Section 5.

4.5. *Summary*

Taken together, these investment patterns portray SWFs as internationally active, rather omnivorous investors seeking to acquire significant but non-controlling equity stakes in a wide variety of listed and private companies, but who also seek to diversify risk by purchasing stakes in private equity funds and commercial real estate. There is no evidence that SWFs routinely seek to exercise a monitoring

¹² In December 2008, CIC invested another \$20 billion into recapitalizing the Agricultural Bank of China, but this is not included in our database, which ends in September 2008.

or corporate governance role in the companies in which they invest that is at all commensurate with the actual ownership stakes they acquire. Instead, SWFs appear content to remain large but completely passive long-term investors, rarely accepting offers of board seats, and frequently choosing to purchase non-voting shares. While it is important to remember that SWFs are not a homogeneous group, and there are many variations in investment style and taste for risk, these data do show that the funds exhibit common investment tendencies.

5. Empirical Results

We begin this section by presenting results from three event studies: (1) a study of the company's stock price performance prior to the SWF investment, to offer some insight into what kind of companies SWFs invest in; (2) a short-term announcement-period event study, in order to evaluate the market reaction to the public disclosure of a SWF investment; and (3) a long-run return study, to investigate the impact of SWF investments on target companies. In each case, we present three sets of results, computed using raw returns, market-model abnormal returns with a local equity index used as a benchmark, and matched-firm abnormal returns. The econometric benefits of using a matched-firm approach in event studies are outlined by Barber and Lyon (1997) and this methodology is used by Hertzfel, et al. (2002) and Choi, Lee and Megginson (2009), among others. Accordingly, while we present raw and market-model abnormal returns, we give most emphasis to the matched-firm results.

For our event study, we restrict the sample to purchases of shares of publicly traded firms.¹³ We obtain daily historical stock-price returns, adjusted for dividends and splits, and translated into US dollars for targeted firms from *Datastream*, and include only observations for firms for which we find return data for at least six months (120 trading days) prior to the announcement date. Our final sample contains 248 investments worth \$118.7 billion made by 21 SWFs in 195 distinct firms in 32 target countries. The earliest investment we observe is in 1991 and the latest in September 2008.¹⁴ We obtain historical daily

¹³ In order to not rely on SWF-supplied data, as the latter potentially suffers from the biases documented by Phallipou and Gottschalg (2009) and Griffin and Xu (2009), we are forced to restrict our analysis to acquisitions of equity in publicly traded firms. We recognize this is a major limitation of our empirical study. On the other hand, we believe the size of our sample to be large enough to draw some important conclusions regarding both the investment-picking ability and the impact of SWFs on target companies. A recent precedent of a similar approach in the financial literature is the above-mentioned Griffin and Xu (2009).

¹⁴ In the analysis of raw returns, we use all events for which we can obtain target stock prices for the entire time interval of interest, unless a target has received multiple investments by different SWFs on the same day; in that case, we treat those multiple investments as one single event. Similarly, for the analysis of market-adjusted returns, we use all events for which we can obtain both target stock prices and local market indices for the entire time interval of interest, while adjusting as previously stated for multiple contemporaneous investments. Finally, for the matched-firm event study, we use all events with both target and match stock prices available for the entire time interval of interest, with the same adjustment for multiple contemporaneous investments in the same target.

total return series for equity indices for each target country, translated into US dollars, from *Datastream*. Similarly, we obtain from *Datastream* industry classifications and prior year-end market capitalizations (in US dollars) for all publicly-traded firms in each country in which target firms are incorporated. We obtain scores for SWF structure, governance, accountability and transparency, and behavior from Truman (2008). In cross-sectional analysis, we also employ the Linaburg-Maduell transparency index scores as a robustness check, and we obtain these scores from the Sovereign Wealth Fund Institute.¹⁵

Market-model abnormal returns are computed by subtracting from the target's raw return the expected return obtained from a market model, using the local equity index as a market proxy. In order to compute expected returns, we estimate the market model using at least 120 and as much as 360 trading days ending 20 days prior to the time interval of interest; the exact length of the estimation interval depends on data availability.

In computing matched-firm abnormal returns, we proceed as follows. We begin by identifying matching firms to use as benchmarks: for each target firm, we obtain the set of firms from the same country of incorporation and sharing the same FTSE Level 5 classification. Amongst these, we select the firm with the closest market capitalization as of the end of the fiscal year preceding the year during which the investment takes place. If no firm shares the same FTSE Level 5 classification, we match on FTSE Level 4; in the absence of matches, we use FTSE Level 3 and, finally, if no firms share the same FTSE Level 3, we use the firm from the same country with the closest market capitalization as of the end of the fiscal year preceding the year during which the investment takes place.¹⁶ We do not use as matches any firms that are ever targeted for investment by any SWF. Matched-firm abnormal returns are computed by subtracting the stock-price return of a matched firm from the target's stock-price return.

We present event study results for various time intervals preceding the SWF investment in Table 6. Results of a short-term event study around the announcement of the investment are presented in Table 7, while results from a long-term event study following the investment are included in Table 8. In each table, we report the time interval of interest, the number of observations, Patell's Z-score [as described by Patell (1976)] for the significance of the mean abnormal return (the raw return in Panel A of Tables 6, 7 and 8), the number of positive and negative abnormal or raw returns (cumulative for the short-term analysis and compounded for the longer time intervals) and the results of a nonparametric generalized

¹⁵ The Linaburg-Maduell transparency index for Sovereign Wealth Funds has been developed by Carl Linaburg and Micheal Maduell. The index values range from 1 to 10, with 10 indicating the highest level of transparency. Details on this index are available at: <http://www.swfinstitute.org/research/transparencyindex.php>.

¹⁶ *Datastream* offers six different levels of industry and sector classification. Of those, we employ levels 3, 4 and 5. Level 3 classifies firms into one of 9 groups: resources, basic industries, cyclical consumer goods, non-cyclical consumer goods, cyclical services, non-cyclical services, utilities, information technology and financials. Level 4 is more details and contains 39 sectors, based on the FTSE Actuaries system. Level 5 adds sub-sectors (a maximum of 11 sub-sectors per sector).

sign test.¹⁷ In the matched-firm analysis, we also present a t-test for the significance of the abnormal return conducted using a cross-sectional estimate of the standard error of the abnormal return, to control for event-induced volatility as recommended by Brown and Warner (1985).

5.1. *Pre-Event Performance*

We limit our analysis of pre-event performance to 227 observations for which we have at least 360 trading days of data prior to the announcement of the SWF acquisition. We report compounded raw and abnormal returns for 240 trading days (approximately one year), 120 trading days (approximately six months), 60 trading days (approximately three months) and 20 trading days (approximately one month) prior to the announcement of the acquisition. In each event study specification, we only include results for securities for which we obtain stock prices during the period of interest; the exact number of observations employed in each case is reported in Table 6.

****** Insert Table 6 about here ******

As reported in Panel A of Table 6, mean raw returns are positive over all pre-event time intervals. Naturally, raw returns fail to account for the riskiness of the investment, so we present market-model abnormal returns in Panel B and matched-firm-adjusted abnormal returns in Panel C. For the market-model abnormal returns, the evidence is mixed. Over the one-year period preceding SWF investments, mean compound abnormal returns are positive (2.18%), but Patell's Z test indicates statistically significant underperformance.¹⁸ Nonparametric analysis is inconclusive, since 112 of the securities exhibit positive abnormal returns over the one year preceding SWF investments, while 115 exhibit negative abnormal returns. Results are clearer over the six months preceding SWF investments: we find a statistically significant abnormal return equal to -1.22%. Yet, in accordance with recent literature, we emphasize matched-firm mean abnormal returns, which are negative over all of the pre-event windows. The average buy and hold abnormal return on target firms over the one year preceding SWF investment is equal to -8.01% and is highly statistically significant, both in parametric and nonparametric tests. The great majority (143 out of 212, or 67%) of the target firms display negative abnormal returns over the same time horizon.¹⁹ We emphasize that our main results—the market model abnormal returns and

¹⁷ In order to compute the standard error of the abnormal return, used in computing Patell's Z score, we again use at least 120 and as many as 360 trading days ending 20 days prior to the investment. For the analysis of abnormal returns prior to the investment, we estimate the standard error of the abnormal return by using at least 120 and up to 360 trading days ending 240 days prior to the day of the investment.

¹⁸ This apparent inconsistency is explained by the fact that the mean compounded abnormal return is computed as a straight average of abnormal returns, while Patell's Z is based on a volatility-weighted average abnormal return. The volatility-weighted mean compounded abnormal return over the one year preceding the SWF investment is -3.57%.

¹⁹ We are able to compute matched-firm abnormal returns for only 212 of the 227 acquisitions, due to lack of available daily return data for matched firms.

matched-firms abnormal returns—are unaffected by calculating returns in US dollars, as returns on both target firm and benchmarks (local equity indices and matched-firms equity prices) are equally affected by the currency conversion.

These results lead us to conclude that, on a risk-adjusted basis, the companies in which SWFs tend to invest have generally performed poorly compared to their peers, consistent with the proposition that SWFs tend to invest in distressed companies. We propose that this is largely due to SWFs investing in weakened companies to avoid the backlash of regulators in target-countries. Certainly, by acting as ‘saviors’ of distressed companies, SWFs tilt public opinion in their favor. SWF actions during the recent financial crisis, in particular the heavy investments in loss-making western financial institutions, are a good example of such behavior.

5.2. *Initial Market Reaction to SWF Investment Announcements*

We report short-term event study results in Table 7. We include our entire event-study sample in this analysis, but we report results only for those observations for which we find stock prices during the period of interest. Our short-term event studies include a maximum of 235 observations, as indicated in Table 7.²⁰ Raw returns, market-model abnormal returns and matched-firm abnormal returns all indicate that the event-day (or event-window) market reaction to SWF investment announcements is positive. In particular, over the three-day interval including the day of the investment announcement, the previous day and the following day, abnormal returns are approximately 0.9% and statistically significant at least at the 10% level in all but one analysis. The only exception is the matched-firm t-test based on cross-sectional estimates of the return standard error, which is not statistically significant. Nonparametric tests confirm all our significant findings and indicate that our results are not driven by a few outliers.

****** Insert Table 7 about here ******

We again emphasize that our market-model and matched-firm results are robust to the use of local currency returns, rather than returns in US\$ as presented here. In addition, for the short-term event study we compute raw returns in local currencies and find qualitatively similar results. For robustness, we also study the market response using market-adjusted returns (computed by simply subtracting the local equity index return from that of the target company) and find qualitatively identical results. As a final robustness check, we also compute abnormal returns, both market-adjusted and market-model, using a global index as a benchmark (the MSCI Global) for all available years, and again find a very similar, positive and statistically significant market reaction to SWF investment announcements.

²⁰ As before, the number of observations is further reduced for the market-model and matched-firm event studies, due to the need for market index or matched-firm return data.

Overall, our results clearly indicate that the market reaction to SWF investments is positive. In further analysis, we will provide evidence pointing to market participants reacting positively because they believe SWFs will improve target firm performance, presumably by improving monitoring of managerial performance. We now turn to long-run return tests to determine how these SWF investments perform over extended holding periods.

5.3. *Long-Term Stock Price Performance after SWF Investments*

We report long-term event study results in Table 8. In particular, we analyze target performance over 120 trading days (approximately six months), 240 trading days (approximately one year) and 480 trading days (approximately two years) following the SWF investment. For each time interval, we only include the observations for which we have target stock prices for the entire period, and local equity index values and matched-firm stock prices for the market-model and matched-firm analysis, respectively.

****** Insert Table 8 about here ******

Mean raw returns are negative but not statistically significant over the 120 trading days following investment by SWFs; mean raw returns are positive and statistically significant at least at the 10% level over the one and two-year periods following SWF investments.²¹ Market-model abnormal returns, on the other hand, show severe underperformance. The six-month, one-year, and two-year abnormal returns are, respectively, -10.99%, -26.52% and -104.92% and approximately two-thirds of all investments are followed by negative abnormal performance over each interval. Parametric and nonparametric tests are significant at the 1% level over the six-month and one-year intervals and at the 5% level for the two-year event window. Our results are confirmed by the matched-firm analysis. Abnormal returns are negative, albeit of smaller magnitude, over all time intervals and equal to -5.98% over six months, -10.23% over one year, and -15.49% over two years following SWF investments. 149 of 208 firms (72%) display negative buy-and-hold abnormal returns over the two-years following SWF investments. All results are statistically significant in both parametric and nonparametric tests at the 1% level.

As before, we stress that our market-model and matched-firm results are robust to the use of local currency returns, rather than returns in US dollars as presented here. Our results are also robust to the use of global, rather than local market indices. Though the magnitude of the underperformance varies across models and benchmarks, evidence of the long-run underperformance itself is very strong. While we

²¹ While the raw returns from the event study are mostly positive, the results presented in Table II indicate that the aggregate value of SWF investments has decreased over time. Noting that the results of the event study give equal weight to each observation, while the computation of aggregate value leads to value-weighting of individual observations, we observe that SWFs suffer the biggest percentage losses on their largest investments. In unreported results, we confirm our intuition by computing value-weighted returns on investments, obtaining larger loss estimates than those presented in Table 8. A discussion of large recent losses for Persian Gulf-based SWFs is offered by Setser and Ziemba (2009).

recognize that the abnormal returns computed by using the market-model differ greatly from those estimated using the matched-firm approach, both sets of results indicate severe underperformance. As previously noted, we put more faith in the results obtained by using the matched-firm approach, as do most recent papers on long-run event studies. We conclude that SWF investments underperform relative to local market indices and relative to matched firms.

Taken together, the evidence of a positive market reaction followed by negative long-term performance is puzzling. A similar pattern has been documented by Hertzell, et al. (2002) in regards to private placements of equity: for their sample of 619 publicly traded firms announcing private equity placements over the years 1980 to 1996, the market reacts positively, but the subsequent (3-year) stock price performance is negative. Other similarities between our results and those of Hertzell, et al. include negative pre-event performance; they find that private issues follow periods of poor operating performance, whereas we document low stock price returns over the year preceding SWF investments. As do Hertzell, et al., we note that our results indicate that investors are overoptimistic about the prospects of target firms, but ultimately fail to fully explain the puzzle. We conclude that the companies in which SWFs tend to invest have subsequently performed poorly when compared to their peers, consistent with either poor stock picking or with a lack of monitoring leading to increased agency costs between managers and outside shareholders. We try to distinguish between those two possibilities in the cross-sectional analyses discussed in sections 5.8 and 5.9.

5.4. Robustness Checks: Cross-Country Investments

Our sample contains both domestic and international investments by SWFs, but it is especially the latter which have elicited most discussion and commentary. We recognize that domestic investments could elicit a different market reaction and that the long-term impact of SWFs on domestic firms could be different from that on foreign firms. Accordingly, we replicate our matched-firm event studies including only cross-country investments. For the sake of brevity, we do not report the full results, but these are available upon request. 48 of the total 248 (19.35%) observations used for our event studies are domestic investments; we exclude these and use the remaining 200 observations (80.65% of the original sample) for pre-event, short-term and long-term analysis. The sample for the pre-event analysis is further reduced, due to lack of data availability for either the target or matched firm, to 171 observations. The mean abnormal returns over one-year, six-months, and one-month prior to the SWF investment are, respectively, -7.72%, -3.91% (using Patell's Z, statistically significant at the 1% level) and -1.89% (statistically significant at the 10% level). These findings are very similar to our full-sample results..

The sample of cross-border investments used to compute announcement-period abnormal returns comprises 187 observations. Mean abnormal returns are positive over the (-1,+1), (0,0) and (0,+1)

intervals, and the largest mean abnormal return, 1.01%, is observed over the (-1,+1) interval. This is not statistically significant in parametric tests, but it is highly statistically significant in nonparametric analysis, since abnormal returns are positive for 112 of 187 observations. Compared to our full-sample results, these results indicate a slightly stronger reaction, but slightly lower statistical significance.

The samples of cross-border investments used for the six-month, one-year, and two-year post-event periods are reduced to, respectively, 183, 179 and 169 observations after excluding domestic investments. Mean abnormal returns are, respectively, -7.32%, -12.76% and -17.71%, which are statistically significant at least at the 5% level in parametric tests and at the 1% level in nonparametric tests. These results indicate a slightly stronger (more negative) reaction for cross-border investment announcements, compared to our full-sample results, both in magnitude and statistical significance.

Overall, the results obtained for cross-border investments are very similar to those obtained using the full sample. Our analysis is not affected by the exclusion of domestic investments from the sample.

5.5. *Robustness Checks: Excluding Financial Firms*

The recent financial crisis has affected financial firms more than any other industry. SWF investments in financial firms were even more atypical, as SWFs have invested heavily in distressed western financial institutions, effectively saving some of these from failure. Such a concentration of investments in one distressed industry could possibly explain both the favorable market reaction we document in our short-term analysis and the negative long-term performance of SWF investments.

In order to investigate whether our results are driven by SWF investments in financial firms, we replicate our analysis by excluding those. We find 66 investments in financial firms in our 248 observation sample (26.6%); once we remove these, we are left with 182 observations (73.4% of the total). The sample for the pre-event analysis is further reduced, due to lack of data availability for either the target or matched firm, to 156 observations. For the sake of brevity, we again report only summary findings, though our full results are available upon request. Mean abnormal returns for non-financial firm stocks over one year, six months, and one-month prior to the SWF investment are, respectively, -8.06% (statistically significant in nonparametric tests, but showing mixed results in parametric tests), -4.58% and -1.75% (both statistically insignificant). These results are very similar to those for the full sample, though the statistical significance is reduced.

The announcement-period sample of non-financial firm targets includes 171 observations. Mean abnormal returns are positive over the (-1,+1) interval but tiny (0.09%) and insignificant, and negative over the (0,0) and (0,+1) intervals. Overall, these results indicate that the positive short-term market reaction is mainly driven by the inclusion of financial firms into our sample. Excluding financial firms reduces the long-run return sample to 183, 179 and 169 observations for the six-month, one-year, and

two-year periods, respectively, and the corresponding mean abnormal returns are -7.32%, -12.76% and -17.71%. These are all statistically significant at least at the 5% level in parametric tests and at the 1% level in nonparametric tests. Compared to our full-sample results, these results indicate a slightly stronger reaction, both in magnitude and statistical significance.

On balance, excluding financial firms does not affect pre-event and long-term event study results. On the other hand, these robustness checks indicate that the positive announcement-period abnormal returns observed for the full sample of all SWF investments are largely due to inclusion of financial firms in our sample. SWFs earn normal short-term returns on their non-financial investments.

5.6. Robustness Checks: OECD targets only

Recent financial research finds that the effectiveness of corporate governance is often related to local laws and regulations and that it is often seriously weakened in emerging economies. For example, Faccio (2006) shows corporate governance fails most often in emerging markets. To investigate whether our results are driven by investments in emerging markets, we replicate our matched-firm event studies by including only SWF investments in which the target is based in an OECD country. We find 98 such investments in our 248 observation sample (39.5%). For the sake of brevity, we again report only summary findings, though our full results are available upon request.

The sample for the pre-event analysis is further reduced, due to lack of data availability for either the target or matched firm, to 86 observations. Mean abnormal returns over one-year, six-month and one-month prior to the SWF investment are, respectively, -9.19% (statistically significant at least at the 5% level in all parametric and nonparametric tests), -2.43% and -0.55% (statistical significance tests for both offer conflicting results). Compared to our full-sample results, these findings are very similar over the one-year horizon, but weaker (less negative) over the six-months and one-month horizons.

The sample for the announcement-period analysis is similarly reduced to 92 observations. Mean abnormal returns are positive over the (-1,+1), (0,0) and (0,+1) intervals. The largest mean abnormal return, 1.86%, is observed over the (-1,+1) interval and it is highly statistically significant in nonparametric analysis, since abnormal returns are positive for 60 of 92 observations. Overall, the magnitude of the short-term abnormal returns for OECD targets is slightly greater than that for the overall sample. Including only OECD targets reduces the sample for the six-month, one-year and two-year analysis to, respectively, 88, 84 and 76 observations. Mean abnormal returns are -10.01%, -16.37% and -22.03%, respectively, which are all statistically significant at least at the 1% level in both parametric and nonparametric tests. Compared to our full-sample results, these results indicate a stronger (more negative) reaction, both in magnitude and statistical significance.

Overall, these tests show that are results are not specific to investments in emerging markets, as they hold even when these are removed. If anything, the long-term impact of SWF investments on target firms is even more deleterious in OECD countries.

5.7. *Robustness Checks: United Kingdom Targets Only*

Becht, et al (2009) assert—and their results confirm—that blockholder activism should be uniquely valuable in the United Kingdom’ corporate governance regime. In order to test whether SWF monitoring might be uniquely effective with listed British companies, we replicate our matched-firm event studies by including only SWF investments in which the target is based in the United Kingdom. We find 15 such investments in our full 248-observation sample (6.0%). For the sake of brevity, we again report only summary findings, though our full results are available upon request.

Mean abnormal returns over one-year, six-month, and one-month holding periods prior to the SWF investment are, respectively, -7.52%, -2.09% and -1.34%, none of which are statistically significant. Compared to our whole-sample results, these results are slightly smaller in magnitude; the lack of statistical significance is likely due to the very small sample size. Mean abnormal returns are positive over the (-1,+1), (0,0) and (0,+1) intervals. The largest mean abnormal return, 1.96%, is observed over the (-1,+1) interval. It is statistically significant at the 5% level in one parametric test (Patell’s Z) but not in another (the t-test using a cross-sectional estimate of the standard error). Nonparametric tests are statistically significant at the 10% level, with 11 of 15 events showing positive abnormal returns. Overall, the short-term abnormal returns for U.K. targets are somewhat larger than for the overall sample, but the marginal statistical significance precludes drawing firm conclusions.

For the six-month, one-year, and two-year post-investment holding periods mean abnormal returns are, respectively, -15.25 %, -21.66% and -21.42%, though tests for statistical significance offer, once more, conflicting results.²² In any case, these abnormal long-run returns on U.K. listed firms receiving SWF investment are *negative* as in the full sample of all investments, but of greater magnitude (so ‘more negative’). There is thus no evidence that SWFs monitoring is especially valuable in their British investments—or that sovereign funds monitor target firm managers at all.

5.8. *Cross-Sectional Regression Analyses of Announcement-Period Abnormal Returns*

²² The six-month abnormal return is significant at the 1% level, based on Patell’s Z-test, but is not statistically significant in the t-test with cross-sectional standard error estimates nor in nonparametric tests; the one-year abnormal return is significant at the 1% level based on Patell’s Z, at the 5% level based on the t-test (with cross-sectional standard error estimates) and at the 10% level based on nonparametric analysis; finally, the two-year abnormal return is only statistically significant at the 10% level based on the t-test (with cross-sectional standard error estimates).

In order to further investigate the determinants of the market reaction to announcements of investments by SWFs, we perform a series of cross-sectional regressions. The dataset we employ in this and the following regressions includes all individual investments which are not contemporaneous to other investments in the same target by the same or other SWFs. In addition, only observations with available data for all explanatory variables are used. The final number of observations employed in each regression specification ranges from 142 to 155. The exact number of observations used in each regression is detailed in Table 9.

****** Insert Table 9 about here ******

In the first set of regressions, we use the three-day matched-firm abnormal return as a response variable. We first examine whether the abnormal performance of the funds is driven by investments in two sectors particularly affected by the recent crisis, finance and real estate. Accordingly, we include two binary variables, *Financial Target* and *Real Estate Target*, set to 1 if the primary sector of the target is, respectively, finance or real estate and to 0 otherwise. Given the evidence presented in Section 3 of SWFs ‘rescuing’ firms in those sectors (particularly finance), we expect the signs of the estimated coefficients to be positive, as markets should react positively to the news of a SWF offering a lifeline to firms in severe financial distress. We expect the market reaction to be weaker if the SWF is already a shareholder of the firm. Accordingly, we add another binary variable, *Pre-Existing Stake*, set to 1 if the investing SWF has a prior stake invested in the target firm, to 0 otherwise, and we expect a negative coefficient. We also expect the strength of the market reaction to be proportional to the size of the investment, so we add a variable equal to the percentage of the target acquired by the SWF, *Percent Acquired*. The significance of this variable could also indicate a short-term liquidity effect, as the latter should be related to the proportion of shares acquired. Since the effect of *Percent Acquired* might be nonlinear, as predicted by Shleifer and Vishny (1997), we also add *Percent Acquired Squared*, the squared value of the latter variable. Since it is possible that SWFs have a negative effect on the firms they invest in by expropriating minority shareholders, we also add *75% Acquisition*, a binary variable set to 1 if the SWF acquired a stake equal to or greater than 75%, and to 0 otherwise. Since in such cases there are few minority shareholders left to expropriate, we expect the sign of the coefficient to be positive. We include a binary variable identifying open market transactions, *Open Market Investment*, to test whether there is a different average response for secondary versus primary share offerings. To test whether SWFs are viewed more favorably when buying stakes in domestic firms, we include *Domestic Investment*, a binary variable set to 1 if the country of incorporation of the target and the country of origin of the SWF are the same and to 0 otherwise. A final explanatory variable is *1-Month Pre-Event BHR*, the matched-firm compounded abnormal return over the months preceding the SWF investment, included to control for momentum.

Aside from this common set of variables, we also add fixed effects by fund in the first specification, to test whether the market reaction is different depending on which fund is investing. In the second specification, we remove the fixed effects but add *LM Transparency Index*, the Linaburg-Maduell Transparency Index for the investing SWF. We expect the market to react more favorably to investments by more transparent funds and, accordingly, we expect the associated coefficient to be positive. In a third specification, we remove the Linaburg-Maduell transparency index and add *Truman_Total*, the total score given by Truman (2008), equal to the average of Truman's SWF scores for structure, governance, accountability and transparency, and behavior. We expect the market to react more favorably to investments by funds that rank higher on Truman's score. In our final specification, we substitute the disaggregated *Truman_Accountability&Transparency*, *Truman_Structure*, and *Truman_Behavior* for *Truman Total*.

The results of our cross-sectional analyses are reported in Table 9, Panel A. We find that the market reaction is stronger for financial targets, as expected, leading to larger positive abnormal returns. This is consistent with the results presented in Section 5.5, where we showed that the positive market reaction is specific to investment targets in the financial industry. Since many of the financial investments were, in effect, bailouts, this result is unsurprising and might lead us to think that the favorable market reaction is purely due to capital injections in distressed companies. Yet we also find that the market reaction is smaller in magnitude if the fund had a pre-existing stake in the company, indicating that the announcement of the investment has a weaker signaling effect. We interpret this as a sign that SWF investments are viewed favorably by markets, above and beyond a pure 'rescuing' effect; if the market were simply reacting to the favorable news of a capital injection into a distressed company, there would not be a reason for subsequent investments to elicit a weaker market reaction. Our conclusion is reinforced by the fact that the market does not appear to react differently to 'open market investments,' indicating that the abnormal return is not purely due to news of a capital injection, and by the fact that the market reaction is not conditional on the size of the stake acquired, as we would expect in a bailout. Rather, our results indicate that market participants view SWFs as desirable shareholders. This is consistent with gains in performance expected to stem from improved monitoring, though the magnitude of the market reaction is significantly smaller than that documented by Brav, Jiang, Partnoy and Thomas (2008), who find an abnormal return of 7% to 8% at announcement of investment by an activist hedge fund. This indicates that shareholders do not expect SWFs to engage in activist campaigns as intense as those of hedge funds.

Finally, we observe that pre-event performance is strongly linked to the market reaction, indicating possible leakage of information, or at least the presence of rumors, in the months preceding the investment. We find no evidence of the other hypothesized explanatory variables playing significant

roles. On the basis of our cross-sectional analyses, we also rule out a jump in share price being due to a reduction in the effective supply of shares.²³

5.9. *Cross-Sectional Regression Analyses of Long-Term Abnormal Returns*

While the analysis of the market reaction provides insights into how market participants perceive SWFs as investors, it is important to understand what drives the long-run performance of investment targets. Accordingly, we utilize a second set of cross-sectional regressions to analyze the long-term returns earned by SWFs. Our event study results indicate that firms in which SWFs invest display negative abnormal returns over the following two years. The worsening performance of SWF investment targets suggests that SWFs do not successfully monitor the action of managers in target firms, as do at least some other large shareholders such as private pension funds and hedge funds. An alternative explanation is that SWFs, being relatively new international investors buffeted by political pressures, might simply have been poor stock pickers. In this section, we attempt to explore which of those explanations is more likely. Ultimately, we find that both effects--poor stock picking and lack of monitoring--are contributing to the long-term underperformance of SWF investments.

In our regressions, we utilize the six-month, one-year, and two-year buy-and-hold abnormal returns obtained in the matched-firm event studies. As in the previous regressions, we include binary variables indicating whether the primary activity of the target is in finance or real estate, as we hypothesize that the negative long-term abnormal returns could be driven by investments in those sectors, which would be consistent with poor stock-picking. We hypothesize that funds with better structure, governance and behavior could exercise a more beneficial monitoring effect on target firms; hence, we add, as explanatory variables, the related scores by Truman. We also believe that transparency could affect the long-term profitability of SWF investments. On one hand, more transparent funds could send more significant signals to the market, thereby increasing the benefits associated with their monitoring role. On the other hand, a high level of transparency could reduce fund profitability by forcing disclosure of potentially valuable information. Hence, to test the effect of transparency, we add Truman's score for transparency and accountability. A pre-existing stake in the target firm could reduce the performance improvements associated with new monitoring. Accordingly, we add the related binary variable. We also hypothesize that the long term impact could be related to the size of the stake acquired: as the stake

²³ It has been suggested that the positive reaction to SWF investments we document might be due to a reduction in the supply of shares (as SWFs, by being mostly long-term investors, tend to remove large blocks of shares from the free float). Yet, the results of our cross-sectional analysis are not consistent with this interpretation: in a liquidity-related effect, the reduction in supply of shares and the related appreciation should be proportional to the size of the stake acquired (which is contrary to our finding), should be greater for open-market investments (which, again, is not what we find) and should not be conditional on the SWF already being a shareholder (while the short-term market reaction we document clearly is). We can thus confidently rule this supply-side effect out.

acquired grows larger, so do monitoring incentives. Yet, as the SWF gains influence, it might seek to extract benefits and to impose priorities not consistent with those of other shareholders—as Woitdke (2002) shows happens with many pension fund investors. Accordingly, Shleifer and Vishny (1997) predict that the impact of large shareholders might be a nonlinear function of the size of the stake acquired. In order to allow for this possibility, we add an explanatory variable equal to the square of the share acquired. As in the regressions pertaining to stock market reaction, we add a variable identifying acquisitions of stakes equal to or larger than 75% to further test for the presence of agency costs related to the expropriation of minority shareholders. It is also plausible that SWFs have a stronger impact on domestic investments, as political pressures to act as passive investors would be weaker domestically. Accordingly, we add the relevant binary variable. Finally, we control for pre-event performance by including the one-month matched-firm pre-event compounded abnormal return.

We present results in Table 9, Panel B. We find that financial targets display weaker long-term performance than do other firms, with negative and statistically significant coefficients at the six-month and two-year horizons. This is a reversal of the positive effect noted for financial firm investments in the announcement period regressions. The coefficient on the financial-firm binary variable is also negative, but insignificant, at the one-year horizon. This result is consistent with poor stock picking. Since the response variable is a matched-firm abnormal return, this evidence indicates that not only did investments in financial firms (which constitute, as previously documented, a large portion of SWF investments) underperform, but SWF managers invested in some of the worst performing financial firms, even when compared to their industry-matched peers. Why the poor stock picking of SWF managers has led to stronger underperformance in the financial industry than elsewhere is easily explained by recent events. In recent years, as the volume of SWF investments surged, western governments and the general public displayed growing opposition to foreign sovereign entities purchasing large equity stakes. At the same time, western financial firms found themselves in dire need for liquidity. SWFs quickly understood they could avoid opposition in host countries by investing in distressed firms which appeared to welcome them as shareholders--and needy western financial firms proved to be very welcoming. Thus, SWFs systematically invested in the most distressed firms in an already distressed industry.

Truman's governance score is associated with a positive and statistically significant impact at all time horizons, as expected; this could be due either to stock picking (as SWFs with better governance scores could be more accurate in their stock-picking) or to a negative impact on governance (as SWFs with low governance scores might be more detrimental to the performance of the target). Truman's accountability and transparency score, on the other hand, is negative at all horizons and statistically significant over the six-month and the one-year horizons. We cannot easily rationalize why one measure of superior fund governance is associated with positive long-term performance while another governance

measure is associated with poor performance. Instead these contradictory results might indicate that the quality of fund corporate governance is not a first-order influence on their ability or willingness to serve as monitors of investee companies, because the funds in our sample generally choose not to exercise active monitoring of target firm managers after acquiring stakes.

While the six-month post-investment abnormal return is significantly related to the pre-investment performance, suggesting a short-term momentum effect, the importance of pre-investment performance wanes at longer horizons. Rather, one and two-year abnormal returns are strongly related to the size of the stake acquired. Overall, the relationship is negative, with larger negative abnormal returns associated with larger stakes, and the effect is also non-linear, as expected. These findings are consistent with the shareholder expropriation hypothesis: if the negative long-term performance of SWF investment target were entirely due to poor stock picking, then it should not be related to the size of the stake acquired. Rather, stronger underperformance associated with larger stakes suggests that SWFs exercise a negative impact on the firms they invest in. We also find some evidence of a positive effect associated with ownership stakes of 75% or larger, which is also consistent with the shareholder expropriation hypothesis.²⁴

Overall, the results of this cross-sectional analysis indicate that the long-term performance of SWFs cannot be simply explained by either a lack of monitoring or poor stock picking alone. The negative performance of financial targets is indicative of poor stock picking, as SWFs largely invested in this sector, while the negative impact associated with larger stakes points to a deterioration in the quality of monitoring: SWFs are purely passive and create no value through monitoring, thus freeing managers from effective oversight, exacerbating the role of agency costs in the relationship between managers and shareholders. Consistently, this effect is moderated for SWFs with high governance scores and when the acquisition involves nearly full ownership of the target.

Overall, the results here presented indicate that SWFs are poor monitors and do not lead to increased firm valuations as predicted by Shleifer and Vishny (1986) and Stulz (1988, 2005) for other large shareholders. SWFs do not possess that freedom of action described by Chen, Harford and Li

²⁴ The shareholder expropriation hypothesis implies a loss of value suffered by minority shareholders due to the actions of one (or multiple) controlling shareholders or, as in this case, by managers lacking oversight. If the controlling shareholder owns a very large portion of the firm, the decline in firm value due to expropriation of minority shareholders is likely to be reduced - as the monetary value of the shares held by minority shareholders is smaller. The concept is best illustrated by the extreme case in which an investor acquires 100% of a target firm: in this case, we wouldn't expect any loss of value due to shareholder expropriation, as there would be no minority shareholders. Accordingly, over a two-year post-investment horizon, we find a positive effect on firm value associated with the binary variable indicating that the SWF owns almost the entire firm (75% or more), indicating that the negative impact of SWFs on firm value (measured by the negative coefficient on the *Percent Acquired* variable) is mitigated by almost-full ownership. We recognize that the 75% cutoff is arbitrary and accordingly attempt, for robustness, different cutoffs ranging from 70% to 95%, with qualitatively identical results.

(2007), which makes hedge funds ideal monitors, nor can they credibly threaten management with divestments, as in Parrino, Sias and Starks (2003) or Adamati and Pfeiderer (2009). Overall, our findings confirm the thesis of Chen, Harford and Li (2007), indicating that not all blockholders add value to the firm by improving monitoring.

6. Conclusions

This study presents an empirical analysis of sovereign wealth fund investment patterns and performance. We list the major funds and analyze their size and discuss estimates of future growth. Using a broad sample of SWF equity investments we provide a comprehensive overview of SWF investment patterns by fund, by industry sector, and by geography. We present evidence on the mechanics of SWF investments, and measure the impact of SWFs on the subsequent performance of the listed companies in which they invest. We document that SWFs purchase, on average, a sizable minority stake in target companies, which can either be publicly traded or private. We also find that SWFs overwhelmingly buy equity stakes in listed companies by purchasing newly-issued common or preferred stock directly from target companies in friendly transactions that exclude outside participation by existing shareholders. This feature of SWF investment suggests that SWFs become the allies of target-firm managers and are thus constrained from playing a meaningful disciplinary or monitoring role. In addition, these government-owned funds face significant political pressure from recipient countries to remain passive investors in cross-border deals. The fact that the funds invariably purchase minority stakes—at least in large western public companies—similarly suggests that the funds will be unable to decisively intervene in target firm management even should they wish to do so.

We find that a large number of acquisitions are clustered in the finance and banking sector. Using stock price returns as a proxy for firm profitability, we find that target firms underperform during the year preceding SWF investments; accordingly we conclude that SWFs tend to invest in underperforming firms, possibly to minimize political opposition. On average, stocks of targeted corporations exhibit *positive* abnormal returns of about 0.9% over the three day period including the day on which the SWF investment is announced, the previous and the following day. While we find that this positive reaction is mostly a feature of investments in the financial sector, in cross-sectional analysis we find evidence indicating that it is not simply due to a ‘bailout effect’. Rather, our evidence indicates that shareholders expect improvements in firm performance, which is consistent with a monitoring role expected from large institutional shareholders.

Despite the enthusiastic--or, at worst, neutral (in non-financial investments)—announcement period market reactions, we find evidence that SWFs are associated with negative abnormal stock returns

over the two years following the initial SWF investment. In particular, we find that the two-year average abnormal buy-and-hold return of investment targets, computed by using matched firms as benchmarks, is equal to -15.49%. In cross-sectional analysis, we find that the pre-investment underperformance of investment targets appears to persist for up to six months following the investment. Yet, we also find that the longer-term post-acquisition target performance is related to fund characteristics and to the size of the stake acquired. In particular, underperformance is less severe for SWFs with better governance, but more severe for funds that are more transparent and for acquisitions involving largest stakes. The negative impact associated with larger stakes points to the fact that SWFs not only do not create value through monitoring, but exacerbate conflicts between managers and minority shareholders by freeing the former from effective oversight.

Finally, we recognize that SWFs are a very heterogeneous group. Our analysis indicates that the pernicious impact on target firm governance is mitigated when the investor is a SWF with a high governance rating. All SWFs, however, appear to have been poor stock pickers, overinvesting in the sector that was most hit in the current crisis, the financial industry--and then picking some of the worst performing firms within the financial industry. We propose that the poor stock picking could be a consequence of political pressures which led SWFs to invest in distressed industries and firms in order to minimize target-country political opposition and regulatory backlash.

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Table 1. Sovereign Wealth Funds

This table lists the 32 funds that meet the Monitor-FEEM definition of a SWF, and offers information regarding country of origin (*Country/Sub-National Affiliation*); fund name (*Fund Name*); the estimated fund size in US\$ billions (*Assets Under Management (\$US Billion)*) as of April 2, 2009; the year in which the fund was established (*Inception Year*); the principal source of funding for the fund (*Source of Funds*); and a measure of the fund's current practices, the Truman (2007) Score (Total), an average of the fund's scores on the dimensions of 'Structure', 'Governance', 'Accountability & Transparency' and 'Behavior', expressed as a percentage of maximum possible points. Asset size, inception date, and source of funds data are from the Monitor Group-FEEM (2009) (<http://www.monitor.com>) or the Sovereign Wealth Fund Institute (<http://www.swfinstitute.org>), and Truman's scores are from Truman (2008).

Country / Sub-National Affiliation	Fund Name	Assets Under Management (USD BN)	Inception Year	Source of Funds	Truman's Score (Total)
Angola	Reserve Fund for Oil	Unknown	2004	Oil	NA
Australia	Future Fund	\$42.2	2006	Non-Commodity	80
Azerbaijan	State Oil Fund of Azerbaijan (SOFAZ)	\$1.5	1999	Oil	77
Bahrain	Mumtalakat Holding Company	\$10.0	2006	Oil	NA
Brunei	Brunei Investment Agency (BIA)	\$30.0	1983	Oil	18
China	China Investment Corporation (CIC)	\$190.0	2007	Oil	29
Equatorial Guinea	Fund for Future Generations	Unknown	Unknown	Oil	NA
Gabon	Fund for Future Generations	Unknown	1998	Oil	NA
Kazakhstan	Kazakhstan National Fund	\$38.0	2000	Oil	64
Kiribati	Revenue Equalization Reserve Fund	\$0.4	1956	Phosphates	NA
Kuwait	Kuwait Investment Authority (KIA)	\$169.0	1953	Oil	48
Libya	Libyan Investment Authority (LIA)	\$65.0	2006	Oil	NA
Malaysia	Khazanah Nasional Bhd	\$23.1	1993	Non-Commodity	38
Norway	Government Pension Fund – Global	\$326.0	1990	Oil	94
Oman	State General Reserve Fund	\$8.2	1980	Oil & Gas	20
Qatar	Qatar Investment Authority (QIA)	\$58.0	2005	Oil	9
Republic of Korea	Korea Investment Corporation (KIC)	\$20.0	2006	Non-Commodity	51
Russia	National Wealth Fund	\$83.6	2008	Oil	51
São Tomé and Príncipe	National Oil Account	\$12.2	2004	Oil	48
Singapore	Government of Singapore Investment Corporation (GIC)	\$247.5	1981	Non-Commodity	41
Singapore	Temasek Holdings	\$85.0	1974	Non-Commodity	45
Timor-Leste	Petroleum Fund	\$3.2	2005	Oil & Gas	80
UAE	Emirates Investment Authority	\$15.0	2007	Oil	NA
UAE / Abu Dhabi	Abu Dhabi Investment Authority (ADIA)	\$282.0	1976	Oil	9
UAE / Abu Dhabi	Abu Dhabi Investment Council (ADIC)	Unknown	2006	Oil	9
UAE / Abu Dhabi	Mubadala Development Company	\$14.7	2002	Oil	15
UAE / Abu Dhabi	IPIC	\$14.0	1984	Oil	NA
UAE / Dubai	DIFC Investments (Company) LLC	Unknown	2006	Non-Commodity	NA
UAE / Dubai	Investment Corporation of Dubai (ICD)	\$82.0	2006	Oil	NA
UAE / Dubai	Istithmar World	\$9.0	2003	Oil	14
UAE / Ras Al Khaimah	RAK Investment Authority	\$1.2	2005	Oil	NA
Vietnam	State Capital Investment Corporation	\$0.5	2006	Non-Commodity	NA
Total, Oil & Gas		\$1,412.0			
Total, Others		\$419.3			
Total		\$1,831.3			

Figure 1. Temporal Distribution of Sovereign Wealth Fund Investments, January 2000- December 2008

These figures describe the annual number and total value (US\$ Billions) of investments by sovereign wealth funds in the FEEM-Monitor SWF Transaction Database, January 1986 - December 2008.

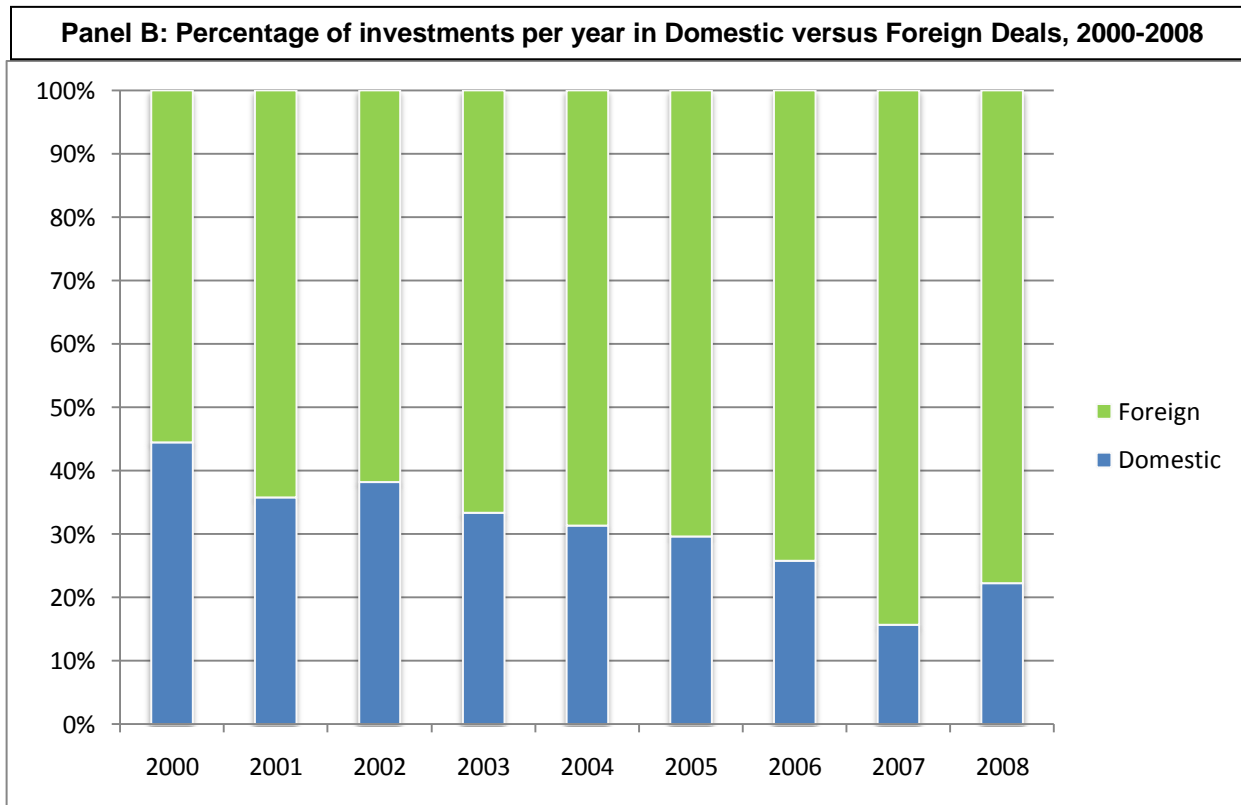
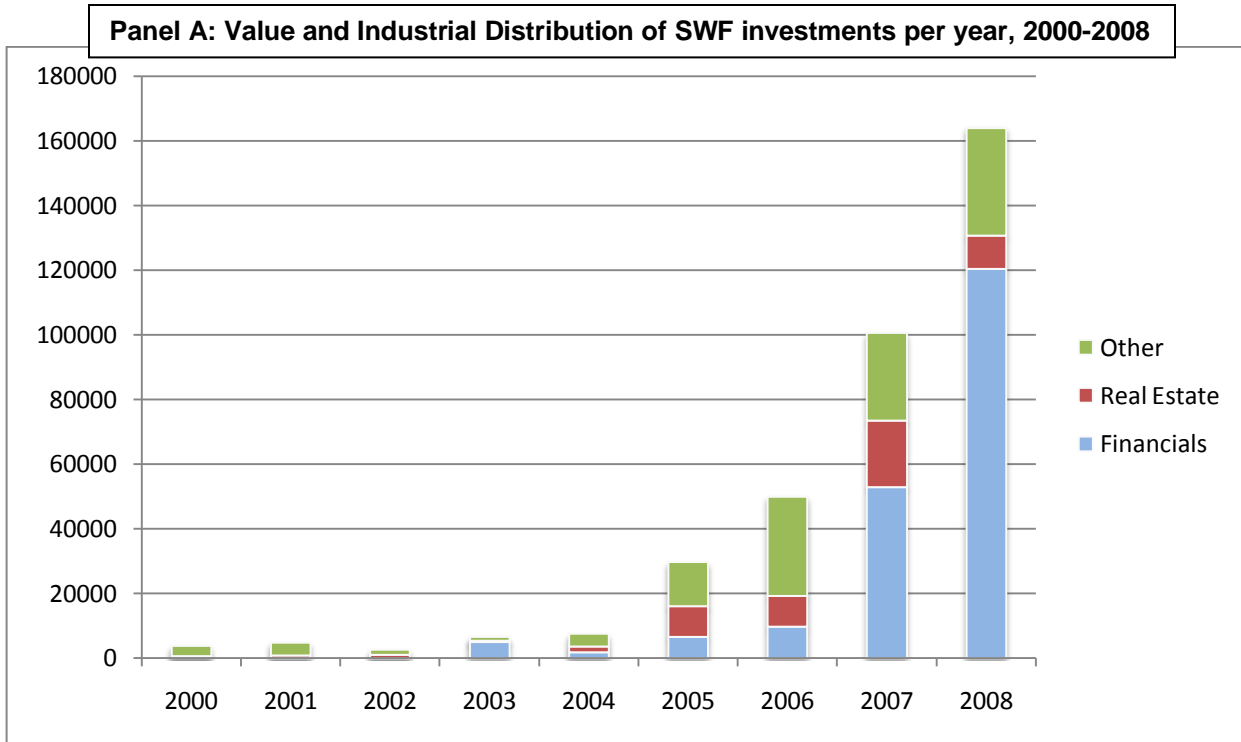


Table 2. Details on the Largest Sovereign Wealth Fund Investments in Listed Stocks, with Investment Returns from Inception through March 27, 2009

This table details the 24 largest sovereign wealth fund investments into listed equities, along with the investment date, the value of the investment at the inception date, the holding period return from inception to March 27, 2009, and the overall gains and losses experienced by SWF investors on these investments. Source: Monitor-FEEM SWF Transaction Database.

Acquiror Name	Target Name	Investment Date	Value of Investment (\$mil)	Investment Value (\$mil), March 27, 2009	Holding period return, inception to March 27, 2009	Gain or loss, (\$mil)
GIC - Singapore	UBS	02/08/08	\$14,400.00	\$4,339.16	-69.87%	-\$10,060.84
GIC - Singapore	UBS	12/10/07	\$9,760.42	\$2,121.06	-78.27%	-\$7,639.36
Abu Dhabi Investment Authority	Citigroup Inc.	11/27/07	\$7,500.00	\$684.87	-90.87%	-\$6,815.13
GIC - Singapore	Citigroup Inc.	01/15/08	\$6,880.00	\$2,370.00	-65.55%	-\$4,510.00
Abu Dhabi Investment Authority (ADIA)	PrimeWest Energy Trust of Canada	09/07/07	\$5,000.00	\$5,371.40	7.43%	\$371.40
China Investment Corporation	Morgan Stanley	12/19/07	\$5,000.00	\$2,545.13	-49.10%	-\$2,454.87
Temasek Holdings	Merrill Lynch & Co Inc.	12/27/07	\$4,400.00	\$515.00	-88.30%	-\$3,885.00
Kuwait Investment Authority	Dow Chemical Company	07/10/08	\$4,019.08	\$1,171.06	-70.86%	-\$2,848.02
Temasek Holdings	Standard Chartered PLC	03/27/06	\$4,000.00	\$2,345.39	-41.37%	-\$1,654.61
Temasek Holdings	Merrill Lynch & Co Inc.	07/27/08	\$3,400.00	\$1,767.28	-48.02%	-\$1,632.72
Dubai International Financial Centre	OMX AB	02/29/08	\$3,396.80	\$3,644.26	7.29%	\$247.46
Qatar Investment Authority (QIA)	Credit Suisse	01/28/08	\$3,000.00	\$1,680.90	-43.97%	-\$1,319.10
Istithmar World	Time Warner	11/27/06	\$2,000.00	\$2,300.00	15.00%	\$300.00
China Investment Corporation	Fortescue Metals Group	02/04/08	\$2,000.00	\$552.96	-72.35%	-\$1,447.04
Korea Investment Corporation	Merrill Lynch & Co Inc.	01/15/08	\$2,000.00	\$238.02	-88.10%	-\$1,761.98
Kuwait Investment Authority (KIA)	Citigroup Inc.	01/16/08	\$3,000.00	\$299.40	-90.02%	-\$2,700.60
Kuwait Investment Authority (KIA)	Merrill Lynch & Co Inc.	01/15/08	\$2,000.00	\$238.02	-88.10%	-\$1,761.98
Temasek Holdings	Shin Corp Pcl	01/23/06	\$1,900.00	\$991.98	-47.79%	-\$908.02
Dubai International Financial Centre	Deutsche Bank	05/16/07	\$1,800.00	\$540.31	-69.98%	-\$1,259.69
Dubai International Financial Centre	London Stock Exchange Plc	08/17/07	\$1,648.02	\$534.65	-67.56%	-\$1,113.37
Investment Corporation of Dubai	Inmobiliaria Colonial SA	03/11/08	\$1,504.51	\$199.40	-86.75%	-\$1,305.11
Qatar Investment Authority (QIA)	J Sainsbury	06/15/07	\$1,400.00	\$554.38	-60.40%	-\$845.62
Temasek Holdings	Stats Chippac Ltd	05/18/07	\$1,083.48	\$190.59	-82.41%	-\$892.89
Istithmar World	Standard Chartered Plc	10/06/06	\$1,000.00	\$580.42	-41.96%	-\$419.58
Total, Table			\$92,092.31	\$35,775.64	-61.15%	-\$56,316.67
Total, 189 sovereign wealth fund investments in listed firms			\$125,650.29	\$58,772.29	-53.23%	-\$66,878.00

Table 3. Characteristics of the Monitor-FEEM SWF Transaction Database

This table describes the Monitor-FEEM SWF Transaction Database and summarizes the 1,216 individual investments, worth \$357.1 billion, made by 32 sovereign wealth funds (SWFs) between January 1986 and September 2008. This database is created from three sources. The first is the set of 785 SWF investment observations, worth \$250.9 billion, garnered from public sources by the Monitor Group. This sample includes investments in listed equity, unlisted equity, commercial real estate, private equity funds and joint ventures. The second source is a listing of 239 stock purchases made by a pre-specified group of SWFs, worth \$84.1 billion, contained in the Securities Data Corporation Global New Issues database. This database covers equity issues by listed and unlisted companies. The third source is a sample of 230 listed and unlisted equity acquisitions, worth \$71.8 billion, made by pre-specified SWFs presented in the Zephyr Mergers and Acquisitions database. After combining the three datasets and netting out the 71 observations common to two or more samples (which naturally tend to be the largest deals), we verify investment dates, amounts, SWF investors, and stakes purchased for as many observations as possible.

	Summary		Size (\$US mn)		Stake acquired (%)	
	Number of obs	Total value, \$US mn	Mean size	Median size	Mean stake	Median stake
All transactions	1,216	\$357,133	\$441	\$55	42.3%	26.2%
Listed equity investments	379	\$141,218	\$383	\$50	19.4%	9.0%
Unlisted equity investments	719	\$170,659	\$361	\$36	52.5%	49.0%
Unlisted operating companies	691	\$154,202	\$349	\$33	53.3%	49.0%
Private equity funds	10	\$9,526	\$1,905	\$1,200	59.2%	46.0%
Initial public offerings	7	\$2,773	\$396	\$170	3.9%	2.7%
Joint ventures and other	8	\$145	\$120	\$120	45.5%	45.5%
Real estate investments	118	\$45,256	\$546	\$245	73.1%	100%

Table 4. Sovereign Wealth Fund Home Country and Investment Patterns

This table lists the number and total value (in US\$ millions), by fund, of all investments, investments in domestic companies, investments in listed equity, investments in unlisted equity, real estate investments and other types of investments (private equity, initial public offerings, and joint ventures).

Home country	Fund Name	Total Number, Value Investments		Number and Value Domestic Investments		Listed Equity Investments		Unlisted Equity Investments		Real Estate Investments		Other (PE, IPOs, Joint Ventures)	
		# obs	Total value, \$US mn	# obs	Value, \$US mn	# obs	Value, \$US mn	# obs	Value, \$US mn	# obs	Value, \$US mn	# obs	Value, \$US mn
Singapore	Government Investment Corp & subs	188	\$81,383	3	\$408	66	\$34,110	81	\$31,331	41	\$17,340	0	\$0
Singapore	Temasek Holdings, Temsak Capital	510	\$65,454	159	\$9,213	166	\$34,828	332	\$27,754	8	\$2,805	4	\$68
China	China Investment Company, Ltd	12	\$37,350	2	\$20,100	6	\$7,250	4	\$23,000	0	\$0	1	\$4,100
United Arab Emirates	Mubadala Development Comp	62	\$30,279	20	\$9,171	11	\$2,560	38	\$17,875	5	\$2,548	8	\$7,296
United Arab Emirates	Istithmar	80	\$26,962	15	\$3,972	22	\$5,195	37	\$7,110	26	\$14,658	1	NA
Qatar	Qatar Investment Authority (QIA)	29	\$20,926	0	\$0	13	\$9,291	8	\$5,891	5	\$4,744	3	\$1,000
Kuwait	Kuwait Investment Authority	17	\$19,878	1	NA	4	\$6,019	10	\$12,963	3	\$896	0	\$0
United Arab Emirates	Abu Dhabi Investment Authority	42	\$19,072	7	\$51	19	\$14,372	19	\$3,565	4	\$1,135	0	\$0
Malaysia	Khazanah Nasional Bhd	108	\$10,019	90	\$8,398	36	\$6,502	65	\$3,260	6	\$137	1	\$120
United Arab Emirates	Dubai International Financial Cente	11	\$8,858	3	NA	7	\$8,445	3	\$413	1	NA	0	\$0
United Arab Emirates	International Petroleum Investment Corp	20	\$8,081	3	\$1,821	5	\$2,413	15	\$5,668	0	\$0	0	\$0
United Arab Emirates	Investment Corporation of Dubai	3	\$2,518	1	NA	1	\$1,504	2	\$1,014	0	\$0	0	\$0
Libya	Libyan Investment Authority	44	\$2,101	1	NA	3	\$125	26	\$330	13	\$438	2	\$1,200
South Korea	Korea Investment Corporation	2	\$2,000	1	< \$0.01	1	\$2,000	1	\$0.01	0	\$0	0	\$0
	Others (12 funds)	80	\$20,854	20	\$5,217	19	\$6,604	78	\$30,485	11	\$555	5	NA
	Total	1,216	\$357,133	326	\$58,351	379	\$141,218	719	\$170,659	118	\$45,256	25	\$13,784

Table 5. International and Industrial Distribution of SWF Investments

This table lists the number and total value (in US\$ millions), by fund, of all investments, investments in domestic companies, investments in listed equity, investments in unlisted equity, real estate investments and other types of investments (private equity, initial public offerings, and joint ventures).

	Financial	Real estate	Information Technology	Industrial	Infrastructure	Services	Manufacturing	Telecoms	Consumer products & services	Transportation	Healthcare	Trade	Natural resources	Energy & utilities	Materials	Other	# of observations / Total value (\$ mms)
United States	41 \$79,385	13 \$9,855	15 \$994	7 \$514	0 0	17 \$1,944	6 \$149	2 \$22	5 \$3,242	5 \$80	13 \$185	1 \$942	1 na	2 \$400	0 0	2 \$14	132 \$79,385
United Kingdom	19 \$18,537	18 \$10,059	1 \$413	2 \$285	2 \$5,200	12 \$6,174	10 \$1,547	2 \$134	5 \$94	1 \$118	4 \$3,187	3 \$1,705	0 0	2 \$369	1 \$17	0 0	83 \$47,688
China	18 \$26,318	21 \$2,070	6 \$122	4 \$42	1 \$925	1 \$1	6 \$34	1 \$5	8 \$852	4 \$406	1 \$6	1 \$20	1 \$50	2 \$20	2 \$29	1 \$50	79 \$31,000
Switzerland	3 \$27,160	0 0	0 0	0 0	0 0	0 0	1 \$1,290	0 0	0 0	4 \$1,970	2 \$43	0 0	0 0	1 \$77	0 0	0 0	11 \$30,540
United Arab Emirates	14 \$1,141	9 \$3,692	1 na	5 \$6,000	0 0	4 na	7 \$123	0 0	2 na	3 na	1 na	2 na	2 \$1,821	8 \$2,100	0 0	0 0	55 \$14,877
Singapore	21 \$1,126	10 \$3,367	35 \$2,142	32 \$463	0 0	3 \$6	1 \$35	10 \$428	20 \$751	9 \$1,576	0 0	2 \$49	2 \$878	10 \$1,089	2 \$6	1 \$848	177 \$13,230
Australia	10 \$1,119	6 \$1,835	2 \$28	5 \$2,007	0 0	7 \$890	0 0	0 0	1 \$329	1 na	2 \$890	1 na	1 \$13	4 \$4,985	0 0	1 \$14	41 \$12,110
Malaysia	29 \$2,786	12 \$639	8 \$36	23 \$2,476	2 na	4 \$1,250	12 \$158	13 \$2,563	1 na	2 na	4 \$321	2 \$37	2 \$55	1 \$191	1 \$36	1 \$55	117 \$10,550
Hong Kong	5 \$319	0 0	10 \$652	4 \$1,019	3 \$5,474	0 0	4 \$182	3 \$1	11 \$207	0 0	0 0	0 0	0 0	2 \$52	1 \$9	0 0	43 \$7,915
Japan	6 \$238	8 \$3,512	0 0	3 \$50	0 0	3 \$985	1 na	1 \$173	3 na	1 \$244	1 \$95	2 \$862	1 na	1 \$780	0 0	0 0	31 \$6,939
Indonesia	22 \$2,874	0 0	0 0	6 \$136	2 \$1,000	2 \$2	3 \$34	2 \$1,270	1 na	0 0	0 0	0 0	0 0	3 \$363	0 0	0 0	79 \$5,680
India	17 \$993	3 \$226	2 \$110	8 \$25	2 \$60	4 \$158	2 na	8 \$2,191	10 \$547	7 \$379	10 \$152	0 0	0 0	4 \$38	1 na	0 0	30 \$4,884
South Korea	8 \$445	2 \$959	0 0	0 0	0 0	0 0	3 \$82	1 1	0 0	0 0	7 \$463	0 0	2 \$730	1 \$142	0 0	0 0	22 \$3,592
Thailand	16 \$2,465	3 \$161	3 \$110	0 0	0 0	0 0	0 0	2 \$23	2 \$10	2 na	0 0	0 0	0 0	2 \$425	0 0	0 0	30 \$3,194
Italy	2 na	1 \$300	0 0	0 0	1 \$1,579	6 \$313	6 \$262	1 \$4	3 \$111	1 na	0 0	0 0	1 \$36	0 0	0 0	1 na	23 \$2,606
Other	145 \$29,928	51 \$17,896	8 \$245	12 \$5,677	3 \$131	34 \$10,357	25 \$6,069	8 \$1,432	7 \$379	10 \$1,259	8 \$214	5 \$165	3 \$18	17 \$18,943	6 \$113	3 \$489	260 \$113,414
Total	376 \$194,834	145 \$54,571	91 \$4,852	111 \$18,907	16 \$14,369	92 \$22,080	75 \$9,965	52 \$8,247	79 \$6,414	50 \$6,032	53 \$5,556	19 \$3,780	16 \$3,601	70 \$29,974	14 \$210	10 \$1,470	1,216 \$357,133

Table 6. Pre-Event Performance

This table reports raw and abnormal stock price returns for target firms prior to investments by SWFs; Panel A reports raw returns, Panel B reports market model abnormal returns (computed as the difference between target's returns and expected returns based on a market model, with a local equity index acting as a market proxy) and Panel C reports matched-firm abnormal returns (computed as the difference between target's returns and returns on a benchmark firm, incorporated in the same country, when feasible from the same industry and with similar market capitalization). *Interval* indicates the time interval of interest, relative to the date of the announcement of the SWF investment (day 0). *N* reports the number of observations. *Mean Compounded (Abnormal) Return* reports average (abnormal) compounded returns. *Patell Z* reports the result of Patell's Z-score computed to test the statistical significance of the mean compounded (abnormal) return relative to the period of interest. *T-Stat (Cross Section)* reports the result of t-test of the statistical significance of the mean compounded (abnormal) return making use of a cross-sectional estimate of the standard deviation of the (abnormal) daily returns. *Positive* and *Negative* report, respectively, the number of positive and negative compounded (abnormal) returns for the period of interest. *Generalized Sign Z* reports the results of a generalized nonparametric sign test for the significance of the mean compounded (abnormal) return relative to the period of interest. Significance is denoted as follows: "*" indicates significance at the 0.1 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Panel A: Raw Returns

Interval	N	Mean Compounded Return	Patell Z	Positive	Negative	Generalized Sign Z
(-240,-1)	227	15.06%	4.99 ***	151	76	7.062 ***
(-120,-1)	226	4.61%	1.351	125	100	3.646 ***
(-60,-1)	225	2.64%	0.274	126	98	3.847 **
(-20,-1)	225	0.41%	-0.481	116	109	2.501 **

Panel B: Market Model Abnormal Returns

Interval	N	Mean Compounded Abnormal Return	Patell Z	Positive	Negative	Generalized Sign Z
(-240,-1)	227	2.18%	-1.805 *	112	115	0.481
(-120,-1)	226	-1.22%	-3.200 ***	102	124	-0.786
(-60,-1)	225	0.36%	-1.962 *	104	121	-0.457
(-20,-1)	225	-0.16%	-1.203	109	116	0.210

Panel C: Matched-Firm Abnormal Returns

Interval	N	Mean Compounded Abnormal Return	Patell Z	T-Stat (Cross-Section)	Positive	Negative	Generalized Sign Z
(-240,-1)	212	-8.01%	-2.527 **	-2.444 ***	69	143	-4.395 ***
(-120,-1)	212	-3.28%	-1.978 **	-1.228	90	122	-1.507
(-60,-1)	212	-1.43%	-0.707	-0.809	99	113	-0.269
(-20,-1)	212	-0.74%	-0.075	-0.585	104	108	0.419

Table 7. Short-Term Market Reaction

This table reports raw and abnormal stock price returns for target firms on the days surrounding the announcement of investment by a SWF; Panel A reports raw returns, Panel B reports market model abnormal returns (computed as the difference between target's returns and expected returns based on a market model, with a local equity index acting as a market proxy) and Panel C reports matched-firm abnormal returns (computed as the difference between target's returns and returns on a benchmark firm, incorporated in the same country, when feasible from the same industry and with similar market capitalization). *Interval* indicates the time interval of interest, relative to the date of the announcement of the SWF investment (day 0). *N* reports the number of observations. *Mean Cumulative (Abnormal) Return* reports average (abnormal) cumulative returns. *Patell Z* reports the result of Patell's Z-score computed to test the statistical significance of the mean cumulative (abnormal) return relative to the period of interest. *T-Stat (Cross Section)* reports the result of t-test of the statistical significance of the mean cumulative (abnormal) return making use of a cross-sectional estimate of the standard deviation of the (abnormal) daily returns. *Positive* and *Negative* report, respectively, the number of positive and negative cumulative (abnormal) returns for the period of interest. *Generalized Sign Z* reports the results of a generalized nonparametric sign test for the significance of the mean cumulative (abnormal) return relative to the period of interest. Significance is denoted as follows: "*" indicates significance at the 0.1 level; "***" indicates significance at the 0.05 level; "****" indicates significance at the 0.01 level.

Panel A: Raw Returns

Interval	N	Mean Cumulative Abnormal Return	Patell Z	Positive	Negative	Generalized Sign Z
(-1,+1)	235	0.95%	3.27 ***	131	93	3.641 ***
(0,0)	234	0.21%	1.655 *	113	95	1.355
(0,+1)	234	0.70%	3.473 ***	137	85	4.496 ***

Panel B: Market Model Abnormal Returns

Interval	N	Mean Cumulative Abnormal Return	Patell Z	Positive	Negative	Generalized Sign Z
(-1,+1)	235	0.89%	3.009 ***	132	103	3.084 **
(0,0)	234	0.22%	1.759 *	121	113	1.709 *
(0,+1)	234	0.64%	3.328 ***	131	103	3.020 ***

Panel C: Matched-Firm Abnormal Returns

Interval	N	Mean Cumulative Abnormal Return	Patell Z	T-Stat (Cross-Section)	Positive	Negative	Generalized Sign Z
(-1,+1)	229	0.87%	1.853 *	1.572	129	98	2.853 ***
(0,0)	229	0.08%	0.618	0.237	114	107	1.132
(0,+1)	229	0.35%	0.857	0.649	122	104	1.926 *

Table 8. Long-Term Impact

This table reports raw and abnormal stock price returns for target firms following investments by SWFs; Panel A reports raw returns, Panel B reports market model abnormal returns (computed as the difference between target's returns and expected returns based on a market model, with a local equity index acting as a market proxy) and Panel C reports matched-firm abnormal returns (computed as the difference between target's returns and returns on a benchmark firm, incorporated in the same country, when feasible from the same industry and with similar market capitalization). *Interval* indicates the time interval of interest, relative to the date of the announcement of the SWF investment (day 0). *N* reports the number of observations. *Mean Compounded (Abnormal) Return* reports average (abnormal) compounded returns. *Patell Z* reports the result of Patell's Z-score computed to test the statistical significance of the mean compounded (abnormal) return relative to the period of interest. *T-Stat (Cross Section)* reports the result of t-test of the statistical significance of the mean compounded (abnormal) return making use of a cross-sectional estimate of the standard deviation of the (abnormal) daily returns. *Positive* and *Negative* report, respectively, the number of positive and negative compounded (abnormal) returns for the period of interest. *Generalized Sign Z* reports the results of a generalized nonparametric sign test for the significance of the mean compounded (abnormal) return relative to the period of interest. Significance is denoted as follows: "*" indicates significance at the 0.1 level; "**" indicates significance at the 0.05 level; "***" indicates significance at the 0.01 level.

Panel A: Raw Returns

Interval	N	Mean Compounded Abnormal Return	Patell Z	Positive	Negative	Generalized Sign Z
(+1,+120)	219	-0.95%	-0.802	104	115	0.961
(+1,+240)	182	5.33%	1.856 *	95	85	2.420 **
(+1,+480)	131	42.42%	6.892 ***	77	53	3.701 ***

Panel B: Market Model Abnormal Returns

Interval	N	Mean Compounded Abnormal Return	Patell Z	Positive	Negative	Generalized Sign Z
(+1,+120)	219	-10.99%	-5.087 ***	71	149	-4.169 ***
(+1,+240)	182	-26.52%	-5.082 ***	66	116	-2.712 ***
(+1,+480)	131	-104.92%	-2.435 **	48	83	-2.184 **

Panel C: Matched-Firm Abnormal Returns

Interval	N	Mean Compounded Abnormal Return	Patell Z	T-Stat (Cross-Section)	Positive	Negative	Generalized Sign Z
(+1,+120)	217	-5.98%	-2.348 **	-2.576 ***	84	133	-2.417 ***
(+1,+240)	217	-10.23%	-2.347 **	-2.934 ***	71	146	-4.186 ***
(+1,+480)	208	-15.49%	-2.006 **	-3.426 ***	59	149	-5.354 ***

Table 9. Cross-Sectional Analysis of Market-Model Abnormal Returns

This table reports results from OLS regressions of matched-firm abnormal target returns (computed as the difference between target's returns and returns on a benchmark firm, incorporated in the same country, when feasible from the same industry and with similar market capitalization) over different time horizons relative to the day of investment by a SWF; in *Panel A* the response variable is a three-day cumulative abnormal return over the event window including day 0 (the day of the announcement of the SWF investment) and days -1 and +1. Six-months, one-year and two-year buy-and-hold abnormal returns, computed respectively over 120, 240 and 480 trading days following investment by the SWF, are the response variables in, respectively, the first, second and third column of *Panel B*. *Intercept* is the intercept in the regression. *Financial Target* and *Real Estate Target* are binary variables set to 1 if the primary sector of the target is, respectively, finance or real estate and to 0 otherwise. *LM Transparency Index* is the Linaburg-Maduell transparency index for the investing SWF. *Truman_Total*, *Truman_Structure*, *Truman_Accountability&Transparency* and *Truman_Behavior* refer to the SWF-specific scores reported by Truman (2008). *Pre-Existing Stake* is a binary variable set to 1 if the investing SWF has a prior stake invested in the target firm, to 0 otherwise. *Percent Acquired* is equal to the percentage of the target acquired by the SWF, while *Percent Acquired Squared* is simply the squared value of the latter variable. *75% Acquisition* is a binary variable set at 1 if the SWF acquired 75% or more of the target, to 0 otherwise. *Open Market Investment* is a binary variable set at 1 if the investment involved an open-market transaction, to 0 otherwise. *Domestic Investment* is a binary variable set at 1 if the country of incorporation of the target and the country of origin of the SWF are the same, to 0 otherwise. *1-Month Pre-Event BHR* is the matched-firm pre-event compounded abnormal return, included to control for momentum. *N* reports the number of observations and *R-sq* the R squared statistic of the regression. The table included parameter estimates and, in grey font, related standard errors. Significance is denoted as follows: "*" indicates significance at the .1 level "**" indicates significance at the .05 level; "***" indicates significance at the .01 level.

Panel A: Three-Day Matched-Firm Abnormal Returns

	Cumulative Abnormal Returns (-1,+1)			
Intercept	0.0558	-0.0121	0.0192	0.0931
	<i>0.0863</i>	<i>0.0247</i>	<i>0.0259</i>	<i>0.0573</i>
Financial Target	0.0305 *	0.0385 **	0.0295 *	0.0301 *
	<i>0.0178</i>	<i>0.0184</i>	<i>0.0174</i>	<i>0.0176</i>
Real Estate Target	-0.0177	-0.0215	-0.0272	-0.0293
	<i>0.0451</i>	<i>0.0447</i>	<i>0.0442</i>	<i>0.0449</i>
LM Transparency Index		0.0022		
		<i>0.0031</i>		
Truman -Total			-0.0005	
			<i>0.0006</i>	
Truman - Structure				-0.0024
				<i>0.0016</i>
Truman - Governance				0.0005
				<i>0.0012</i>
Truman - Accountability&Transparency				0.0002
				<i>0.001</i>
Truman - Behavior				0
				<i>0.0015</i>
Pre-Existing Stake	-0.0517 ***	-0.0460 ***	-0.04714 ***	-0.0503 ***
	<i>0.0165</i>	<i>0.0169</i>	<i>0.0163</i>	<i>0.0166</i>
Percent Acquired	0.0003	0.0007	0.0009	0.0007
	<i>0.001</i>	<i>0.0011</i>	<i>0.001</i>	<i>0.001</i>
Percent Acquired Squared	<0.0001	<0.0001	<0.0001	<0.0001
	<i><0.0001</i>	<i><0.0001</i>	<i><0.0001</i>	<i><0.0001</i>
75% Acquisition	0.0052	0.0008	-0.0104	-0.0156
	<i>0.0574</i>	<i>0.0656</i>	<i>0.0568</i>	<i>0.0571</i>
Open Market Investment	0.0282	0.0134	0.014	0.0175
	<i>0.0277</i>	<i>0.027</i>	<i>0.0265</i>	<i>0.027</i>
Domestic Investment	0.008	0.0102	0.0072	-0.0055
	<i>0.0222</i>	<i>0.0196</i>	<i>0.0175</i>	<i>0.0202</i>
1-Month Pre-Event BHAR	0.1375 ***	0.1433 ***	0.1316 ***	0.1391 ***
	<i>0.0455</i>	<i>0.0442</i>	<i>0.0437</i>	<i>0.0441</i>
Fixed Effects	Yes	No	No	No
N	155	142	148	148
R-Sq (%)	22.50%	17.50%	16.50%	10.20%

Panel B: Long-Term Matched-Firm Abnormal Returns

	6-Month BHARs	1-Year BHARs	2-Year BHARs
Intercept	-0.0917	-0.1458	0.036
	<i>0.216</i>	<i>0.2761</i>	<i>0.3942</i>
Financial Target	-0.1114 *	-0.1126	-0.2171 *
	<i>0.067</i>	<i>0.0856</i>	<i>0.1246</i>
Real Estate Target	0.1398	0.2934	0.409
	<i>0.1956</i>	<i>0.2499</i>	<i>0.3511</i>
Truman - Structure	0.001	0.0018	-0.0044
	<i>0.006</i>	<i>0.0076</i>	<i>0.0108</i>
Truman - Governance	0.0077 *	0.0112 *	0.0187 **
	<i>0.0045</i>	<i>0.0058</i>	<i>0.0082</i>
Truman - Accountability&Transparency	-0.0062 *	-0.0089 *	-0.0106
	<i>0.0037</i>	<i>0.0047</i>	<i>0.0067</i>
Truman - Behavior	-0.0057	-0.0079	-0.0106
	<i>0.0058</i>	<i>0.0074</i>	<i>0.0103</i>
Pre-Existing Stake	0.0157	-0.0236	-0.1037
	<i>0.0634</i>	<i>0.081</i>	<i>0.1204</i>
Percent Acquired	-0.0013	-0.0115 **	-0.0185 **
	<i>0.004</i>	<i>0.0051</i>	<i>0.0075</i>
Percent Acquired Squared	<0.0001	<0.0001 *	0.0001 *
	<i><0.0001</i>	<i>0.0001</i>	<i>0.0001</i>
75% Acquisition	0.2698	0.1451	1.0799 **
	<i>0.2148</i>	<i>0.2745</i>	<i>0.512</i>
Open Market Investment	0.0513	0.1773	0.2392
	<i>0.1019</i>	<i>0.1302</i>	<i>0.1916</i>
Domestic Investment	0.0285	0.1131	0.0238
	<i>0.1434</i>	<i>0.0989</i>	<i>0.1434</i>
1-Month Pre-Event BHAR	0.4100 **	0.3211	-0.0235
	<i>0.0774</i>	<i>0.2154</i>	<i>0.3105</i>
N	155	144	138
R-Sq (%)	22.50%	12.60%	16.90%

Appendix 1. Milestones in Sovereign Wealth Fund History

This table details key dates in the evolution of sovereign wealth funds and describes their most important and newsworthy investments. Sources include Miracky, Dyer, Fisher, Barbary, and Chen (2008), the Sovereign Wealth Fund Institute, *Financial Times* (various issues), individual fund websites, and the authors' own research.

Year	Event or milestone
1953	Kuwait Investment Board set up in London by Sheik Abdullah Al-Salem Al-Sabah to invest surplus oil export revenues. Later given current name of Kuwait Investment Authority. Formal investment policies established by Ministry of Finance following Kuwaiti independence in 1961.
1956	Kiribati set up first true SWF, the Revenue Equalization Reserve Fund, to invest revenues from phosphate (guano) exports.
1974	Singapore establishes Temasek Holdings to manage Ministry of Finance's equity holdings. ----- Following first oil shock, Kuwaiti and Libyan governments purchase minority stakes in German companies Daimler and Krupp via private sales by family owners. Stakes later transferred to Kuwaiti and Libyan SWFs.
1976	Abu Dhabi Investment Authority founded to manage surplus oil export revenues
1981	Government of Singapore Investment Corporation established, initially as a private company, to make long-term, higher return investments.
1983	Brunei Investment Agency set up to invest oil export earnings and manage external state assets.
1987	Kuwait Investment Authority acquires 21.7% stake in British Petroleum as a result of failed BP share issue privatization following October 1987 stock market crash. British government forced KIA to cut its stake to 9.9% the following year.
1990	Norway establishes the Norway Petroleum Fund (later re-named the Government Pension Fund-Global) to invest proceeds from North Sea oil export sales outside of Norway.
1993	Malaysia establishes Khazanah Nasional Berhad to manage state commercial assets and to make strategic investments.
2001	Khazanah Nasional purchases 100% of United Engineers (Malaysia) in first large buyout of a publicly traded company by an SWF.
2002	Libyan Arab Foreign Investment fund (later re-named Libya Investment Agency) purchases minority stake in Italian soccer team Juventus. Stake later raised twice. ---- Emirate of Abu Dhabi sets up Mubadala Development Company.
2003	Qatar Investment Authority established to provide revenue diversification ---- Emirate of Dubai sets up private equity fund Istithmar World as a wholly-owned subsidiary of Dubai World. ---- Russia establishes Stabilization Fund for the Russian Federation. Later (February 2008) split into Oil Stabilization Fund and National Welfare Fund, a true SWF.
2004	Singapore Power (controlled by Temasek) purchases Australian assets of TXU for \$3.8 billion, the largest cross-border acquisition by SWF to date.
2005	Andrew Razanov first coins phrase "sovereign wealth fund." ---- Dubai International Capital acquires Tussauds Group Ltd for \$1.5 billion [Mar] ---- Korea Investment Corporation established by transferring \$17 billion of foreign exchange reserves to new fund. Given a mission to pursue international investments yielding commercial returns. ---- Mubadala purchases 7.5% stake in U.S. private equity firm Carlyle Group for \$1.35 billion. [Jul] ---- Mubadala buys 3.31% stake in Ferrari. Though fairly small (\$90.5 million), purchase was highly publicized. [Aug] ---- Temasek purchases 5.1% stake in China Construction Bank for \$1.40 billion prior to bank's IPO. [Sep]

2006	<p>Temasek pays \$1.8 billion for controlling stake in Thai telecommunications firm, Shin Corporation, from family of Thaksin Shinawatra, Thailand's elected prime minister. [Jan] Sale proves extremely controversial, and Shinawatra is overthrown in Army coup eight months later. ----</p> <p>Temasek purchases 11.55% stake in Standard Chartered plc for \$4.0 billion. First of many SWF purchases of equity in troubled western commercial and investment banks. [Mar] ----</p> <p>Investment Corporation of Dubai established with the transfer of the Ministry of Finance's investment portfolio. [May] ----</p> <p>China announces plans to issue \$200 billion worth of special Treasury bonds to establish China Investment Corporation. [Sep] CIC actually established in early 2007. ----</p> <p>Istithmar purchases 2.70% stake in Standard Chartered for \$1.0 billion.[Oct]</p>
2007	<p><i>Financial Times</i> begins using phrase "sovereign wealth fund" for first time. [May] ----</p> <p>Stephen Jen (Morgan Stanley) publishes influential report estimating that SWFs then had about \$2.5 trillion in assets, and predicting this total would reach \$12 trillion by 2015. [May] ----</p> <p>Dubai International Financial Center purchases 2.2% stake in Deutsche Bank for \$1.8 billion. [May] ----</p> <p>China Investment Corporation pays \$3.0 billion for 9.9% stake in U.S. private equity firm Blackstone Group as part of Blackstone's IPO. [May] ----</p> <p>Abu Dhabi Investment Authority pays \$7.5 billion for a 4.9% stake in Citigroup, after U.S. bank disclosed massive losses on its mortgage-backed securities holdings. Sale structured as convertible preferred stock with an 11% coupon, convertible within 30 months. [Nov] ----</p> <p>Government of Singapore Investment Corporation pays \$9.76 billion for a 9.04% stake in Switzerland's UBS, after bank disclosed large losses on holdings of U.S. subprime mortgage-backed securities. Including other investors, total financing package was worth \$11.3 billion. [Dec] ----</p> <p>China Investment Corporation pays \$5.0 billion for a 9.9% stake in Morgan Stanley. [Dec] ----</p> <p>Temasek pays \$4.40 billion for 9.45% stake in Merrill Lynch, paying \$48 per share--\$5/share below previous market stock price. [Dec] ----</p> <p>China Investment Corporation invests \$20.0 billion into recapitalization of China Development Bank in order to transform CDB into a commercial bank. [Dec]</p>
2008	<p>Government of Singapore Investment Corporation pays \$6.80 billion for a 4.04% stake in Citigroup, part of a total financing package of \$12.50 billion. Stake sale structured as perpetual convertible preferred stock with a 7% coupon, convertible into Citigroup common stock at a 20% premium. [Jan] ----</p> <p>Korea Investment Corporation and Kuwait Investment Authority each pay \$2.0 billion for 3.0% stakes in Merrill Lynch. Total financing equals \$6.6 billion. [Jan] ----</p> <p>Qatar Investment Authority buys 5.0% stake in Credit Suisse for \$3.0 billion. [Jan] ----</p> <p>China Investment Corporation invests \$4.0 billion into private equity fund set up by J C Flowers & Company to invest in troubled financial institutions. [Feb] ----</p> <p>Government of Singapore Investment Corporation leads other SWFs in a \$12.14 billion emergency capital injection (structured as convertible debt) in UBS after Swiss bank revealed \$18 billion in losses on U.S. subprime mortgage backed securities. GIC invested \$10.3 billion for a 9.0% stake. Other UBS shareholders reacted violently to recapitalization plan, but approved it in an</p>

	<p>extraordinary general meeting. [Feb]</p> <p>----</p> <p>Government of Singapore Investment Corporation invests \$2.50 billion into \$6.0 billion private equity fund set up by TPG Capital to invest in troubled financial institutions. [Feb]</p> <p>----</p> <p>Borse Dubai (subsidiary of Investment Corporation of Dubai) completes acquisition of OMX, paying the Swedish government \$4.50 billion, and then merges with NASDAQ—obtaining a 19.9% ownership stake (but 5% voting stake) in combined group. [Feb]</p> <p>----</p> <p>Temasek invests another \$600 million into Merrill Lynch, increasing its ownership by 1.11% to 43%. [Feb]</p> <p>----</p> <p>Abu Dhabi Investment Authority responds to criticism about non-transparency and sends a letter to U.S. Treasury describing its investment philosophy and practices. [Feb]</p> <p>----</p> <p>Bear Sterns fails and is acquired by JP Morgan, with financial guarantees provided by U.S. government. Signals a serious worsening of subprime credit crisis. [Mar]</p> <p>----</p> <p>Qatar Investment Authority pays \$3.48 billion for another 8.0% stake in Barclays Bank, out of planned \$8.885 billion total financing package. Very poor uptake of shares, but QIA fully subscribed. [Jun]</p> <p>----</p> <p>Brazil announced plans to establish a SWF, to be capitalized with \$200-\$300 billion in revenues expected to be received from newly-discovered oil fields. [Jun]</p> <p>----</p> <p>Oil prices peak at \$147.27 per barrel, up from \$70 per barrel at the start of 2008 and \$40 per barrel in 2005. [Jul]</p> <p>----</p> <p>Saudi Arabia establishes its first SWF, Sanabil al-Saudia, with an initial capitalization of \$5.3 billion. No investments made yet (through March 2009). [Jul]</p> <p>----</p> <p>Temasek buys \$3.40 billion of an \$8.50 billion share offering by Merrill Lynch, receiving about a 10% additional stake, after Merrill announced a \$4.6 billion second-quarter loss. This deal involved Merrill Lynch refunding Temasek \$2.5 billion from its original investment—necessitated by the fact that Merrill was issuing new shares below the original sale price—which Temasek re-invested along with \$900 million in new cash. This deal allowed Temasek not to show a loss on its Merrill Lynch investments. [Jul]</p> <p>----</p> <p>Lehman Brothers files for bankruptcy; AIG, Fannie May and Freddie Mac rescued by U.S. government; Congress passes TARP legislation, clearing way for massive government purchases of bank stocks to rescue financial system. [Sep]</p> <p>----</p> <p>Bank of America agrees to acquire Merrill Lynch for \$50 billion, initially valuing Merrill stock at \$48/share and making Temasek and other SWF investors whole. [Sep] By the time the merger closed in January 2009, the value (of BofA stock) that Merrill Lynch shareholders actually received had fallen to \$11.64/share.</p> <p>----</p> <p>IMF and 21 sovereign wealth funds agree to 24 principles that are to guide SWF investments worldwide. Since these terms were agreed to during a 2-day conference in Chile, they are called the Santiago Principles. [Oct]</p> <p>----</p> <p>Qatar Investment Authority and Sheik Mansour Bin Zayed Al Nahyan (a member of Abu Dhabi's royal family) buy \$9.28 billion worth of convertible securities issued by Barclays Bank, bringing their combined ownership to 30%. Barclays opted to raise capital from SWFs to avoid participating in British government's rescue plan. QIA and Sheik Masour purchase \$4.8 billion worth of new capital reserve notes, paying 14% interest, and \$4.48 billion worth of convertible shares. Other institutional investors purchased an additional \$2.0 billion in convertible shares. [Oct]</p>
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	<p>----</p> <p>The newly-elected president of the Maldives announces plans to set up a SWF capitalized with revenues from tourism that would be used to purchase a new homeland for Maldives citizens in India, Sri Lanka, or Australia—which would be needed if global warming submerges the home islands.</p> <p>----</p> <p>France establishes a SWF, mandates that it protect French industry from acquisitions by foreigners, and assigns management of the fund to the Caisse des Dépôts et Consignations. [Oct]</p> <p>----</p> <p>China Investment Corporation invests \$20.0 billion into recapitalization of Agricultural Bank of China. [Dec]</p>
2009	<p>Report published by U.S. Council on Foreign Relations estimates that Gulf sovereign wealth funds and ruling families suffered investment losses of almost \$100 billion, bringing the total assets under management from \$1.30 trillion at year-end 2007 to \$1.20 trillion at year-end 2008. [Jan]</p> <p>----</p> <p>Qatar Investment Authority announced plans to purchase share stakes of up to 20% in all the country's banks. The SWFs of Kuwait, Russia, China, and other countries also volunteered or were forced to divert funding from international investments to rescuing domestic markets. [Jan]</p> <p>----</p> <p>Aabar Investments (an affiliate of the International Petroleum Investment Company) purchased a 9.1% stake in Daimler for \$2.6 billion, making Aabar the carmaker's largest shareholder. [Mar]</p> <p>----</p> <p>Temasek announced that it had suffered a 31% fall in the value of its assets, from \$184 billion to \$127 billion, between April and November 2008, mostly because of its investments in Standard Chartered, Barclays and Merrill Lynch. [Mar]</p>